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PAPER TRADE JOURNAL

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Vol. XC, No. 16 — PAPER — Thursday, April 17, 1930

Pacific Coast Section of TAPPI Meets

Almost 100 Delegates Attend the Annual Spring Meeting at Longview, Wash.—Representative Technical Men and Others Speak on Topics of Timely Importance in the Pulp and Paper Industry—Industrial Plants In Longview Are Visited—Fall Meeting of the Section To Be Held in Portland, Ore.

[FROM OUR REGULAR CORRESPONDENT]

LONGVIEW, Wash., April 12, 1930.—Almost one hundred delegates assembled here April 5 for the spring meeting of the Pacific Coast Section of the Technical Association of the Pulp and Paper Industry. An unusual and entertaining phase of the meeting was the visit to industrial plants in the city. The entire morning was given over to tours through the Longview Fibre Company plant and the Long-Bell Lumber Company mill, R. S. Wertheimer, manager of the former plant acting as host there and J. D. Tennant, vice-president and general manager of the Long-Bell company, making it possible for the visitors to see this mill in operation.

In giving the welcome address on the afternoon program Mr. Tennant mentioned the advantages which mutually result from the tie-up of a lumber plant and a pulp or paper plant such as maintains to a profitable degree with the two Longview plants visited. This point was made incidentally by the speaker to suggest what co-peration will accomplish when conditions permit.

Before the business and educational session started at 2:15 in the afternoon, golf fans found time to give the fine course at Longview a tryout.

Dr. H. K. Benson, secretary of the Pacific Coast Section of TAPPI, responded to the address of welcome and in addition gave a very splendid account of his trip to the national convention of TAPPI in New York in February, with distinct reference to discussions of constitutional measures which affected the West Coast group. Dr. Benson also urged the members to assist in enlarging the membership of the local section, drawing not only from technical men in the pulp and paper industry but also from those allied fields that might contribute to the general advancement of TAPPI interests.

A Printer's Views on Paper Stock and Manufacture

Paper manufacturers heard a frank discussion of the troubles which occur in printing plants when paper does not come up to standard. This address was given by Ralph H. Mort of the Metropolitan Printing Company, Portland. This printing plant publishes books, expensive seed catalogues, and several papers in newspaper style, and so Mr. Mort was able to talk about color printing and what happens to the work when a flaw or a poor grade of paper gets onto the press on a high class job.

He pointed out by samples and explanations how certain watermarked paper when not properly manufactured blurs the ink. He mentioned the lopsided roll which does not permit the same uniform tension of other rolls on the press and thus makes difficulties. The saw-edged roll also is unwelcome in a printing plant, according to Mr. Mort who says these little points on the edge are rubbed off and get into the ink and the type. These and several other criticisms of paper were presented in an interesting way.

Stream Purification

A paper on stream pollution was read by Carl E. Green, State Sanitary Engineer of Oregon. He pointed out that it is the domestic and industrial waste primarily which make streams unsanitary as natural waste does not seriously affect water. Of the two agencies inimical to sanitation industrial waste consumes the most oxygen and it is therefore deleterious in its reactions. Mr. Green urged that each individual plant take the responsibility for keeping the water in the adjacent district as free from pollution as possible.

Forest Conservation Presented

J. B. Woods, chief forester of the Long-Bell Lumber Company of Longview, outlined the re-forestation program of his company. The plans of this company indicate, according to Mr. Woods' paper, that inaccessible virgin land now standing will not be worth as much in 50 years as a new stand raised under the conservation program.

When forest trees are planted to grow under a reforestation policy the specie may be predetermined, the trees devloped in strength and uniformity by proper pruning and the most advantageous location selected for their growth. Mr. Woods recognized in his discussion the disadvantages of fire hazard and taxation in a large program of conservation, but these in a measure exist under any timber condition and may be counteracted to some extent under future progress.

It is estimated that trees from 2 to 4 feet in diameter may be raised in 100 years, with the average probably 2 feet. The Long-Bell Lumber Company is planting three kinds of trees according to the nature of the soil and the climate, these three being California redwood, Port Orford cedar and hill pine.

"Some Aspects of Record Keeping" was the subject of a paper most ably presented by L. C. Peabody, office manager of the Longview Fibre Company.

Water Supply Problems

Three major difficulties are encountered in treating the water supply of large industries, according to Dean R. G. Tyler of the University of Washington, who discussed "Water Supply Prob-

(Continued on page 54)

Abitibi Power & Paper Co. Exhibits Strength

Conclusion of Proposed Deal With Ontario Hydro Commission to Supply 250,000 H.P., Would Increase Earnings Materially—Possibility of Company Figuring In Merger With International Paper Co., or Canada Power & Paper Co., Another Factor

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 14, 1930.—Chief interest in the industry here this past week has centered upon the market strength of the securities of the Abitibi Power and Paper Company on the Montreal Stock Exchange. The issue has been among the three most active stocks on the Exchange, shares advancing to 42⅛, a gain of some 4¼ points for the week. There are various explanations of the move, all or any one of which may be correct. The one most generally accepted as of immediate consequence is the intimation of the likelihood of the company concluding a deal with the Ontario Hydro Commission to supply the Commission with 250,000 h.p., which would mean that the shareholders could reasonably look forward in the not distant future to a resumption of dividend payments. Another rumor, already referred to in this column, is the possibility of the company figuring in a merger, this rumor linking it up first with the International Paper Company and then with the Canada Power and Paper Company. Another factor is the published statement that Cyrus Eaton, of Cleveland, a former Canadian, and now a well-known American financier, is known to have purchased a very large block of stock, leading to the belief that he and his friends have now come closer to being the holders of the controlling interest of the company than any other one group.

The Abitibi Power and Paper Company controls over 25 per cent of the entire capacity of the Canadian news print mills, and has the largest timber holdings of any company in the country. Its properties consist of nine news print mills and one sulphite mill, comprising seven distinct units engaged in the manufacture of news print and associated products. These include the properties formerly operated under the following companies: Abitibi Power and Paper; Spanish River Pulp and Paper Mills; Fort William Power Company; Manitoba Paper Company; Ste. Anne Paper Company; Murray Bay Paper Company; and Thunder Bay Paper Company. The company's total timber resources are enormous, and its pulpwood resources alone are estimated at 50,000,000 cords. The company's annual capacity of over 700,000 tons of news print and 60,000 tons of bleached sulphite pulp is capable of great expansion.

The power resources of the company aggregate around three-quarters of a million horse power, present development being about 200,000 h.p., with over 500,000 undeveloped horse power in reserve. At present the company uses large blocks of power to generate steam.

Paper Mill for Vancouver

A contract has been awarded for what will be the first paper mill in Vancouver, B. C. This is to be erected for Pacific Mills, Ltd., of Vancouver and Ocean Falls, B. C. The main mill is to be completed by June 1. The completed plant will involve an expenditure of about $150,000, and it will manufacture sanitary towels, serviettes and similar paper goods for which there is a growing market locally. The pulp to be used will come from the company's big plant at Ocean Falls.

Stock Issue by Westminster Co.

A syndicate, headed by the Royal Financial Corporation, will shortly offer 24,588 shares of common stock in the Westminster Paper Company, whose plant was destroyed by fire last summer. The new mill is now nearly completed, and is expected to be operating next month, orders on hand being sufficient to keep it operating at capacity for eight months. The authorized capital of the company is 50,000 shares of $10 par value each, and of this amount $460,050 is subscribed and paid up.

Powell River Co.'s Expansion

The Powell River Pulp and Paper Company is planning expansions that will call for an estimated expenditure of $5,000,000 in addition to that already scheduled. At present the company is engaged in an $8,000,000 development including the construction of a power unit on the Lois River which will add 34,000 h.p. to the present 50,000 h.p. for paper production at the Powell River plant. The new paper machine which is now being installed will bring the total capacity up to 180,000 tons of news print per annum. A large percentage of the company's output goes to the Pacific and Atlantic coasts of the United States, and some goes to British markets. Of the total output 85 per cent is exported.

Hawleys To Build $4,000,000 Plant

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, ORE., April 12, 1930—Willard P. Hawley, Jr., has announced that he and his father, former owner of the Hawley Pulp and Paper company of Oregon city, are planning to reenter the pulp and paper business with the construction of a plant costing between $3,000,000 and $4,000,000.

This confirms in part the recent rumors to the effect that the Hawley interests might be concerned with the recent purchase of a site at Kalama, Wash. Mr. Hawley, Jr., admitted that the location at Kalama was among those under consideration and that it was the most favored one thus far.

Present plans call for construction of a 150-ton bleach sulphite plant and 150-ton kraft mill, with work to start this summer at whatever site is chosen.

Hawley interests in the Oregon plants at Oregon City and at St. Helens were sold last July. Mr. Hawley, Jr., was vice- president of the Hawley Pulp and Paper Company.

The site at Kalama which the Hawleys admittedly have in mind as a possible location is about two miles north of the town on the Columbia river and the Northern Pacific railway.

Pulp Mill May Be Built at Raymond, Wash.

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., April 12, 1930.—A recent report from Raymona, Wash., indicates that a 75-ton pulp mill will be built there employing at the start about 150 persons. Final payment has been made on a site at the Southwest Shingle mill location by A. W. Hammond, of South Bend, who it is understood is acting for eastern interests whose identity he did not divulge. Purchase price of the site including 19 acres of land and 1,400 feet of water front with facilities for cargo shipment is said to have been $20,000.

Algonquin Pulp & Paper Co. Chartered

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., April 12, 1930.—The Algonquin Pulp and Paper Company has filed incorporation articles with the Department of State showing as the principal stockholders men prominent in its affairs for many years. Frank A. Augsbury, William E. Westbrook and Clarence S. Cook are listed as the directors and stockholders in the company which is authorized to issue 15,000 shares of stock having no par value.

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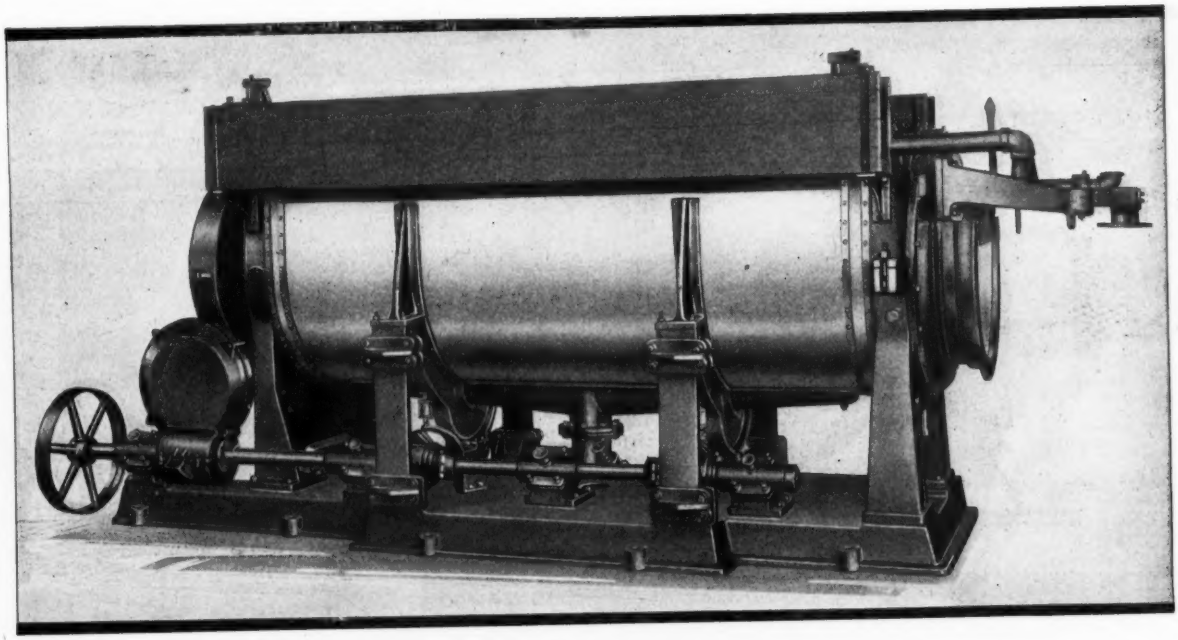

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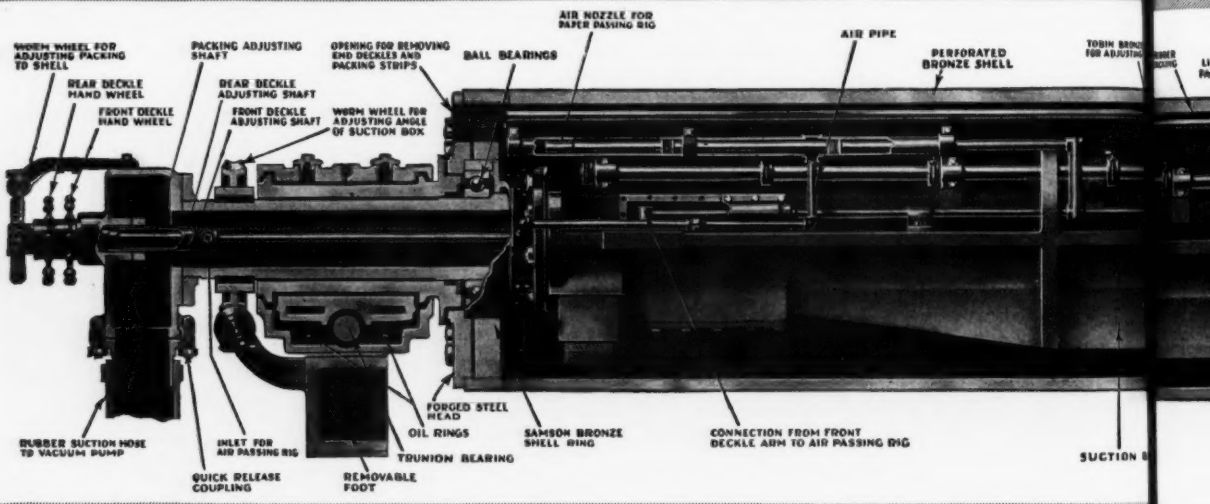
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REAR DECKLE HAND WHEEL
FRONT DECKLE HAND WHEEL
PACKING ADJUSTING SHAFT
REAR DECKLE ADJUSTING SHAFT
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OPENING FOR REMOVING END DECKLES AND PACKING STRIPS
WORM WHEEL FOR ADJUSTING ANGLE OF SUCTION BOX
BALL BEARINGS
AIR NOZZLE FOR PAPER PASSING RIG
AIR PIPE
PERFORATED BRONZE SHELL
RUBBER SUCTION HOSE TO VACUUM PUMP
INLET FOR AIR PASSING RIG
QUICK RELEASE COUPLING
REMOVABLE FOOT
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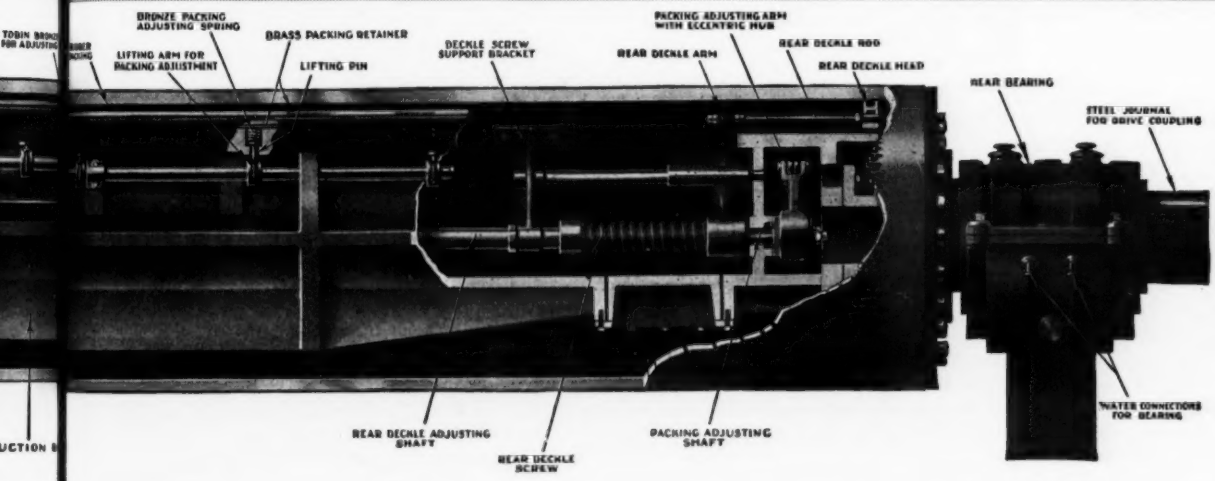

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C. H. Sage New Kimberly-Clark Corp. Director

Eastern Manager of Corporation Succeeds Late Harry Price As Secretary-Treasurer of Organization—Other Eleven Directors Re-Elected at Annual Meeting of Stockholders—Estate of Harry Price Estimated to Exceed $500,000 In Amount

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 14, 1930.—Charles H. Sage, of New York City, has been elected a member of the board of directors of the Kimberly-Clark Corporation, Neenah, Wis., to succeed the late Harry Price, deceased secretary and treasurer of the company. Mr. Sage is eastern manager of the corporation and a former resident of Neenah.

Election of Mr. Sage took place at the annual meeting of stockholders last week at the general offices in Neenah. The other eleven directors remain the same. They are F. J. Sensenbrenner, Ernst Mahler, S. F. Shattuck, S. R. Stilp, C. B. Clark, J. C. Kimberly and John S. Sensenbrenner, all of Neenah; William Boniface, Escanaba, Mich.; Frederick Warburg, of Lehman Brother, New York; Melvin L. Emerich, of Hallgarten & Co., New York and Chicago, and Walter Kasten, of the First Wisconsin National Bank, Milwaukee, Wis.

It is estimated that the estate of Harry Price, who died recently in Florida, will exceed $500,000 in amount. He leaves $10,000 each to Theda Clark Hospital, Neenah, and Grafton Hall, Fond du Lac, Wis., and $5,000 to St. Thomas Episcopal Church, Menasha, Wis. He also makes several bequests to his relatives, sets aside $100,000 for his grand-daughter, Harriet Price Gunn, and stipulates that the residue of the estate shall be divided equally between his widow and daughter, Mrs. Martha Price Gunn, of Chicago. The homestead also goes to the widow.

Forest Products Laboratory Extension

It is now up to President Herbert Hoover as to whether a new building will be erected at Madison for the United States Forest Products Laboratory. The appropriation for $900,000 which has been pending for some time has passed both the senate and the house and has been sent to the White House for signature. The release of this money for building purposes is looked forward to by the paper manufacturers, as the laboratory has been hampered for some time because of inadequate quarters. The new building will permit an extension of research work for the paper industry as well as the wood working industry.

Lower Sulphur Rates Sought

Lower rates on sulphur shipped from Hoskins, Texas, are sought by the Northwest Paper Company, Cloquet, Minn., in a complaint filed with the Interstate Commerce Commission. It is contended that when rates were changed in March, 1927, those applying to Eau Claire and Appleton, Wis., were placed 4½ cents below those to Cloquet, resulting in a discriminatory situation. The Minnesota company asserts that it is in direct competition with Eau Claire, Ladysmith, Park Falls and Ashland, Wis., and wants its own rate on sulphur lowered to correspond with the Wisconsin tariffs. The concern also asks $9905.33 reparation from railroads for damage suffered from high rates.

Big Reforestation Program

Immediate planting of 300,000 Norway pine seedlings will be the first step in the big reforestation program undertaken by the federal government in the state of Wisconsin. As soon as minor technicalities in transfer of lands to the government have been disposed of, a crew will start work in Bayfield county, a good pine region in the northwestern section. Donald C. Ball, federal forest ranger, will be in charge and will make his headquarters at Washburn, Wis. The present federal options cover 50,000 acres of land and it is estimated that the total in what is known as the Moquah Forest will be 111,680 acres. First plantings will be in cut over and burned over lands adjacent to highways. Fire breaks are to be placed at regular intervals.

Marinette Safety School Closed

Marinette, Wis., closed its annual safety school last week with a meeting attended by several hundred persons, with paper mill employes predominating. The speaker was R. G. Knutson, of the Wisconsin Industrial Commission. He pointed out one interesting trend in safety when he said that machine accidents were declining. Seventy per cent of the accidents are non-machine cases and the remainder are the direct cause of some machine.

News of the Industry

Port Edwards and Nekoosa, Wis., where mills of the Nekoosa-Edwards Paper Company are located, will adopt a daylight saving schedule on May 1, according to J. E. Alexander, vice president and general manager. The two villages are made up almost entirely of paper mill workers.

L. M. Alexander, president of the Nekoosa-Edwards Paper Company, Nekoosa, Wis., has been named by the American Paper and Pulp Association as national councillor to the United States Chamber of Commerce. He will represent the paper industry in all national problems in which the chamber is interested. He is to speak at the annual meeting on "What's Ahead for Business."

The Nepco tri-motored Ford monoplane owned by the Nekoosa-Edwards Paper Company, has returned to its airport at Wisconsin Rapids, Wis., after being kept at St. Petersburg, Fla., for the winter. Capt. L. G. Mulzer, the company's pilot, has been conducting an aviation school in the south and is transferring his activities back to the north for the summer season.

H. J. Rosenow, of Menasha, Wis., has accepted a position as sales manager for the DePere Paper Company, DePere, Wis.

Japanese Paper Production

WASHINGTON, D. C., April 14, 1930.—The Japanese Paper Manufacturers Association reports production by the member mills during the month of January at 56,878 short tons and sales at 52,471 tons compared with 58,226 tons and 55,574 tons respectively during the corresponding month last year. Production of newsprint during January amounting to 23,890 tons was about 1,000 tons in excess of that turned out during the same month of last year, and a similar increase was registered in the output of wrapping papers. Production of best grade printing paper, on the other hand, declined by 2,000 tons and the cheaper grades, excluding newsprint, by 1,000 tons. Consumption of paper making materials by the association mills comprised 5,014,350 cubic feet of pulpwood, 688 tons of rags, 541 tons of straw, and 2,986 tons of waste paper. Production of chemical pulp amounted to 20,611 tons and of mechanical pulp to 19,288 tons while 6,428 tons of the former and 319 tons of the latter were purchased.

Imports of pulp for paper making into Japan during the calendar year 1929 reached a total of 90,756 short tons, of which 160 tons represented mechanical pulp and 90,596 tons chemical pulp. Mechanical pulp imports came chiefly from Sweden and Denmark, while of the chemical pulp Canada supplied 43 per cent, Norway and the United States 18 per cent each, and Sweden 11 per cent, the remainder coming chiefly from Germany and the United Kingdom.

FEINC DECKERS SO SUCCESSFUL AT MERSEY PAPER COMPANY THAT

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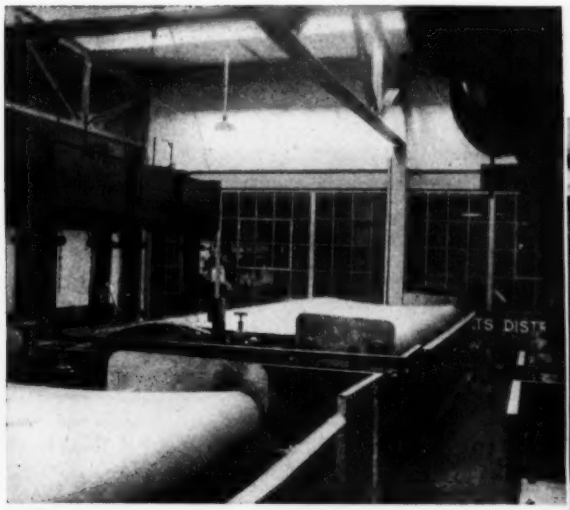
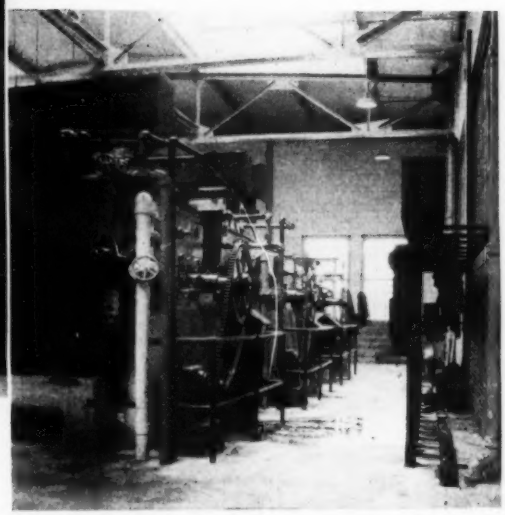
8 GROUND WOOD DECKERS AND 2 SULFITE-WHITE WATER SAVEALLS



Horizontal String Discharge of Sheet on Deep Submergence Machines



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Irrespective of freeness of stock, the FEINC Deckers handle all the groundwood stock for this 225 ton mill, maintaining the white water fibre loss under 1 lb. per 1000 gallons.

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CONTINUOUS FILTERS-DECKERS SAVE-ALLS-WASHERS FOR PAPER PULP

Demand for Paper is More Active in Chicago

Second Quarter Opened With Brighter Prospects of Return to Normal Conditions In Near Future—Some Fine Paper Mill Representatives Report Improved Business — Tissues Now Moving At Brisk Pace—Book Paper Market Fairly Steady

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 14, 1930.—Unseasonably warm weather failed to halt the recoveries that most lines of paper in the Chicago paper market are making. The second quarter of the year opened up with prospects fairly good and with a return to normalcy evident, though some of the lines will have a great deal of trouble in making the records that they chalked up last year. News print is slightly off, though the second quarter, with advertising increasing, looks good. The market here is getting somewhat stronger. The board market is spotty with conditions reported only fair here though said to be better in other portions of the United States. Production is running between 75 per cent and 80 per cent of capacity according to reports.

Tissues, slowly responding to Spring demand, are now going forward at a brisk pace and strengthening up as Easter approaches. The condition is materially improved over last week. Fine papers are sluggish in most instances though some mill representatives continue to report strong demand. Sales efforts on the parts of fine paper jobbers have been redoubled. The book market is fair with demand slightly exceeding production at the present rate and creating some optimism. Wrapping papers in general are better here though prices remain lower than they have been for many years. The waste papers are active, especially the lower grades.

Credit Control Plan Working Well

Individual reports from paper merchants give evidence that the Fine Paper Committee working with the Chicago Association of Credit Men in building up credit conditions in the Chicago area is working out excellently. It is reported from reliable sources that more than 800 accounts with more than $1,000,000 worth of accounts receivable are being adjusted as the result of the credit control plan which went into effect on March 1. The plan is working out according to pre-arrangements although one change has been made—for the better according to the consensus of opinion. At first it was thought that all adjustments could be made by an employed specialist through the office of the Credit Association. More speed and less expense was found to be the result of a change whereby printers doing business with two or more paper houses should have the responsibility for making the settlement resting on the shoulders of the largest creditor. These "deferred" settlements are called for in every instance where the accounts are more than 90 days old. The plan is educating customers along the lines of paying bills promptly. It is also proving beneficial on the part of the printer—who finds himself more strongly entrenched financially when he pays promptly.

Chicago Paper Salesmen's Activities

In a very short time the golfers of the Salesmen's Association of the Paper Industry—and most of the members are—will be competing in their regular monthly embroglios at various country clubs in the Chicago area. Frank Prentiss, of Hollingsworth & Whitney, has been appointed golf chairman to succeed the hard working Tom Donahue, who deserves a chance to compete in his own right, free from responsibility. Harold Knott, president of the association, says that a speakers committee is also working on the monthly programs that are featured by the appearance of well known executives.

Edgar Hall Elected Michigan-United President

Of news to the Chicago paper industry was the announcement of the election of Edgar A. Hall, Jr., as president and managing director of the Michigan-United Paper Company. Mr. Hall will have his offices at Muskegon, Mich., where the headquarters of the company are maintained. Ed Hall is well known in Chicago and in associations affiliated with the National Paper Trade Association. He was for many years connected with Pilcher-Hamilton-Daily of Chicago and left there when general manager to become affiliated with Crown-Zellerbach. Mr. Hall's new position brings him closer to Chicago and will make possible more frequent visits. The Michigan-United Paper Company are manufacturers of waterproof papers. As soon as the word gets spread around concerning Ed Hall's new connection there will be many distributors, large and small, who will be interested in his product both because of its worth and because they will like to be doing business with him.

R. S. Bull Heads Bradner Smith

Good news to the paper trade is that pertaining to the election of R. S. Bull to the presidency of Bradner Smith & Co., Chicago. Mr. Bull, who most of the paper world knows as "Dick," succeeds C. F. Mather Smith, who has been named chairman of the board of directors. Mr. Bull has been executive vice president and general manager of Bradner Smith & Co. for some length of time and his ascendency to presidential duties will create no changes in the management methods of the big Chicago concern. Six vice presidents were also elected at the recent annual meeting including: Joseph Cunningham, Charles D. Brown, George Krisinger, A. R. Martin, W. M. McIntosh and B. F. E. Ricker, Jr. Mr. Martin was re-elected secretary and Henry T. Smith was re-elected treasurer.

News of the Trade

From Decatur, Ill., comes the information that the Decatur Paper House of that city has made arrangements to handle the line of the Howard Paper Company in addition to other popular lines.

Folding, Printing and Uniformity are the three features of Oxford Folding Enamel as described in the latest broadside sent out by Bermingham & Prosser, 128 South Sangamon street, Chicago. Recommended for broadsides and mailing pieces which feature half tones in black and white and full color, the advertisement featuring a full four color reproduction of a holiday scene.

The Chicago Worlds Fair Committee is authority for the information that S. L. Willson, president of the American Writing Paper Company, Inc., is one of the four hundred experts throughout the United States working on a science theme for the Chicago Worlds Fair for which all Chicago is working for in 1933.

American Writing Not to Build at Montreal

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 15, 1930.—Due probably to a similarity in initials, the building of a branch plant for manufacturing tissue and like materials at Montreal, Can., was attributed recently to the American Writing Paper Company, Inc. As a matter of fact, this company has no project of the sort; and the American Tissue Mills, Inc., has well on towards completion just such a structure for the Montreal branch for producing tissue paper products including crepe papers, napkins and other specialties.

Crown Zellerbach Calls Preferred Stock

The Crown Zellerbach Corporation has notified stockholders that all outstanding shares of its convertible preferred stock of the issues of 1926 and 1927 will be called for redemption September 1, 1930, at $120 a share plus accrued dividends.

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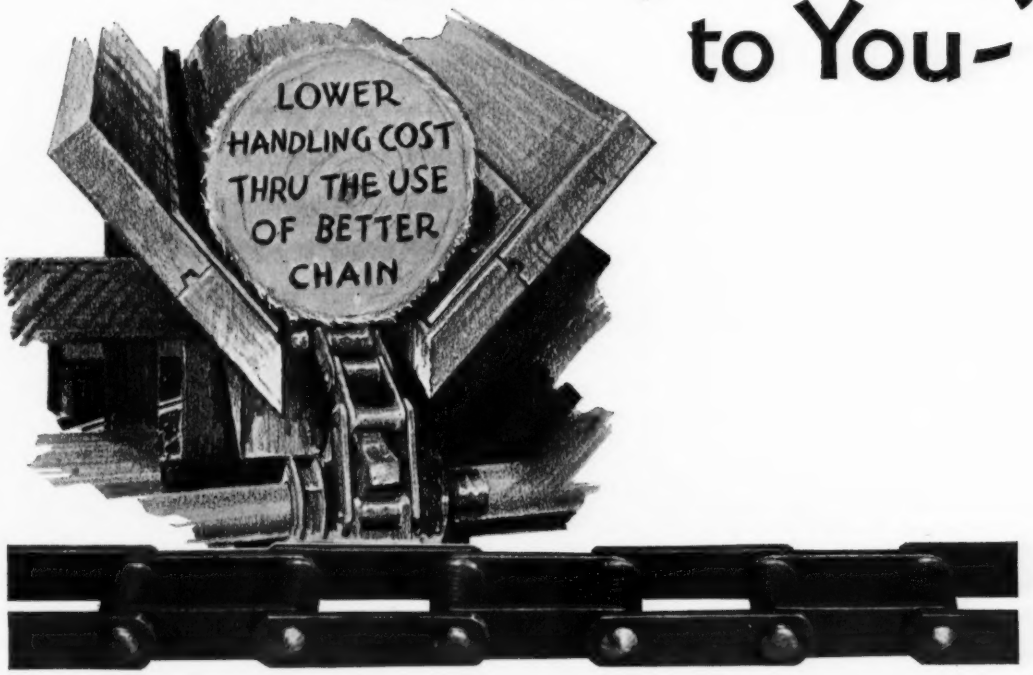

On chain conveyors handling pulpwood, on bucket elevators and for drives Jeffrey Hercules Chain saves considerable money for the pulp and paper industry. It reduces handling and maintenance costs because it withstands more stress and wear than any other combination chain of equal weight.

Jeffrey Hercules Chain is made of the highest quality malleable iron block links, high carbon steel strap links and full diameter D-shank pins which cannot turn in the side bars. This confines the wear to the oval barrel which carries the greatest amount of metal exactly where the greatest wear occurs.

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Locomotives
Ventilation Fans

Paper Demand Rather Spotty in Philadelphia

Business Generally Affected by Disturbed Conditions In Several Sections of the Paper Industry—Many Consumers Show Inclination to Postpone Ordering Until Prices Are More Stabilized—Consumption of Fine Paper Improves Slightly

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 14, 1930.—While there is a general feeling that business will revive with the coming weeks there is just now a disturbed condition which has been in evidence ever since the recent price concessions gave to the consumers an opportunity to postpone orders pending further adjustment of the paper market as they believed prices were due for revision all along the line in standard grades. However, as no further adjustments have been made the consumer is now more willing to accede to the appeal for orders. Dealers have been trying to adjust the many carload shipments received since the break to the needs of the day. While it is not so difficult to dispose of standard paper grades under such adjustment the dealers are at a loss to know what to do in the matter of specialties that do not conform to contracts and which were purchased at the higher prices and where slight imperfections have been the excuse for cancelling shipments. Such goods are not readily salable and will be long on the hands of the dealers or the mills except where allowances are made and bargain prices will promote sales.

Wrapping paper dealers report that the closing of the March accounts show a better record of sales than anticipated though much of the business entailed heavier overhead in view of the limited quantity of paper orders in the hand to mouth buying that prevailed. There is now a feeling that prices have touched bottom and that the next move in values will be upward and though customers still continue to hold off orders in volume the trade is confidently looking ahead to improved markets with the late spring. Kraft conditions show steadiness after revision to the lowest values that have been offered in the post war period. Fine paper consumption shows the improvement that has been made in the last fortnight. This is especially true of the wholesale branch of the trade where mill buying is markedly improved through direct manufacturers representatives or through houses that make volume orders their specialty. The small lot buying, too, has been broadening. Bonds, writings and social and advertising announcements are more active though lacking in volume purchases of normal times.

Unprecedented Demand For Mulch Papers

The officials of the J. L. N. Smythe Company, 30 South 6th street, have been highly elated over the gratifying and unprecedented demand for the Gator Hide Mulch Papers made by the International Paper Company. The seasonal demand has been the highest since the line was introduced by the local distributors. The prosperity of the mulch industry has been verified by the facts disclosed by the International Paper Company which states that more than 200 carloads of the Gator Hide Mulch have been sold so far this spring in the 37 states covered by the International patent rights east of the Rockies. The Gator Hide Mulch comes in two types of rolls for field crops and gardens.

Paper Association Appoints By-law Committees

Members of the Philadelphia Paper Trade Association met at the Down Town Club last Wednesday and after discussion of the changes in the by-laws of the organization which will permit the enrollment of exclusively twine dealers to the body, appointed committees who will arrange the revisions necessary for this innovation. President W. S. Wilcox announced the following committees:—William A. Hentz, D. L. Ward Company; N. A. Considine, Paper House of Pennsylvania, and W. S. Wilcox, Wilcox Walter Furlong Company, representing the Fine Paper Committee; and Charles A. Wilder, Wilder Brothers, and Simon Walter, S. Walter, Inc., representing the Wrapping Paper Division. The revision of the by-laws will be effective in admitting to the association those members of the twine industry who distribute twines exclusively. The present members linked with the twine industry are also paper dealers. Heretofore only paper and twine dealers have been permitted to join the body. The changes in the by-laws will be presented at the coming quarterly meeting to be held April 21. At the meeting of the Fine Paper Division last week the discussions centered around the budget of the association.

International Kraft Distribution Changes

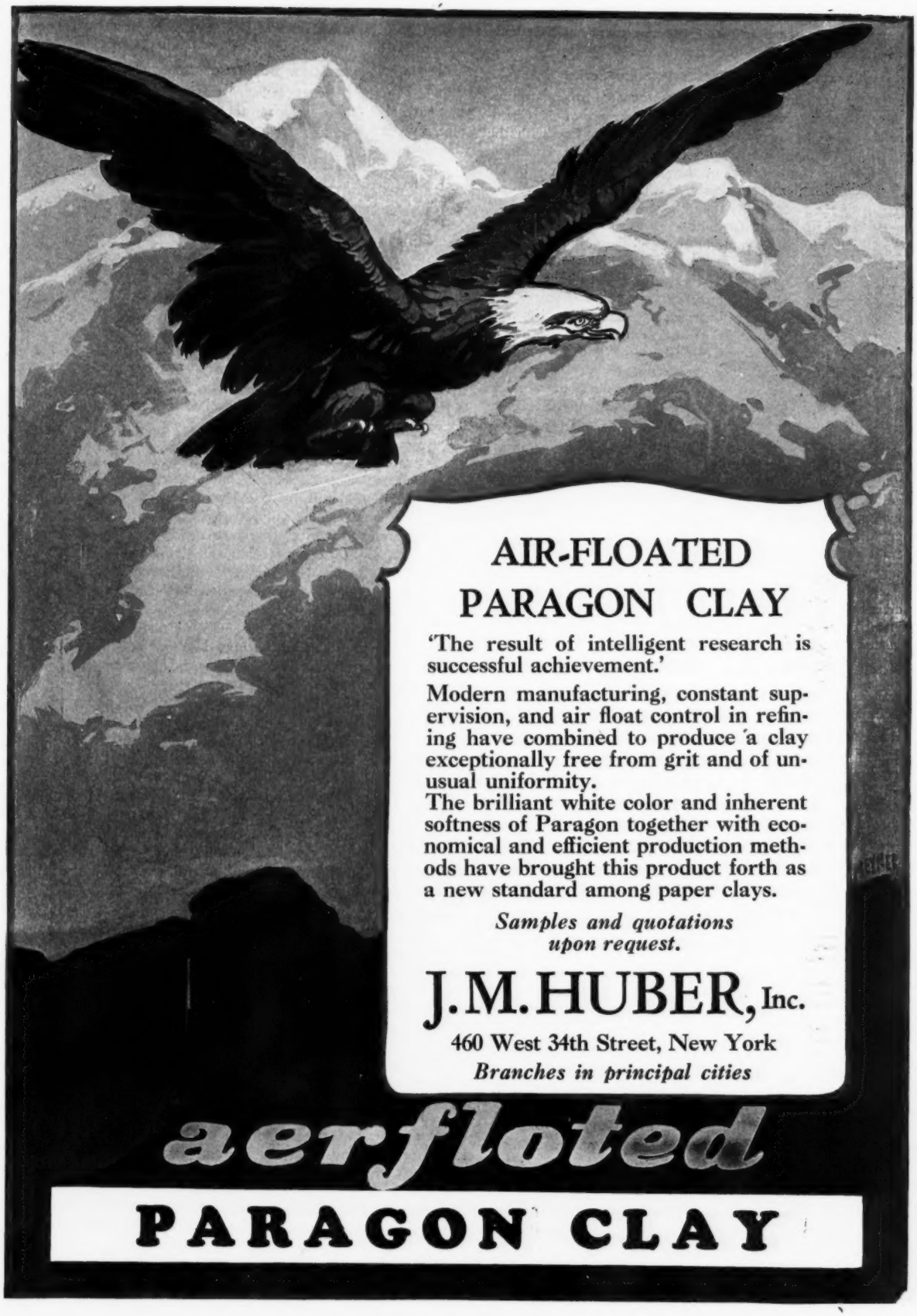
Under the recently announced changes effective in the distribution of kraft papers made by the International Paper Company, the Philadelphia trade has been placed under distributive plans that will permit of the handling of mill orders here by Price & Pierce, Ltd., 17 East 42nd street, New York, and the local manufacturers representative, J. H. Wantling, of the Continental Paper and Bag Mills, with offices in the Land Title Building. Under the changes effective in the mill distribution of northern and southern mill products in kraft, Price & Pierce, Ltd., will feature southern kraft for the International Paper Company, while J. H. Wantling will retain a few of the consumers of this grade along with his distribution of northern kraft which he now represents after having represented the southern kraft division of the International in conjunction with his association with the Continental Paper and Bag Mills. T. K. Davis made a tour of the Philadelphia trade calling on the dealers as representative of Price & Pierce, Ltd., featuring southern kraft. The International Paper Company also occupies other offices in the Pennsylvania Building under management of Vernon R. Schroff, which continues to look after the distribution of the other products made by that concern except those of kraft and mulch papers, and which include news print, bonds, book papers and specialties.

Fenestra Made by Sylvania Co.

An allied line of transparent products is now being offered to the Philadelphia trade by the recently organized Sylvania Industrial Products Company, with plant in Fredricksburg, Va., and executive and sales offices in New York City. The new product is similar to cellophane and is marketed as Fenestra and is devoted to the same uses to which the older product is confined. Fenestra can be used in combination with paper products such as bags or wraps or in wrapping purposes solely. The manufacturers recently completed the erection of a plant in the Virginia city and has executive offices at 122 East 42nd street, New York, and sales offices at 121 West 17th street, in the Metropolis.

W. A. Fontan Manager For Individual Drinking Cup

W. A. Fontan, who recently was appointed Philadelphia manager for the Individual Drinking Cup Company, of Easton, Pa., is introducing the newest product to be placed on the market by that concern. It is a very fine bakelite holder selling at $4 per dozen and is an attractive soda fountain piece that eliminates the polishing necessary in silver holders. The demand for the new holder is in excess of production so favorble has been its reception. The Individual Drinking Cup Company has also been offering an attractive hammered silver holder to be used with the Dixie Drinking Cups or separately by soda-fountain shops. Since coming to the Philadelphia trade from the New York offices of the Indi-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'The result of intelligent research is successful achievement.'
Modern manufacturing, constant supervision, and air float control in refining have combined to produce a clay exceptionally free from grit and of unusual uniformity.
The brilliant white color and inherent softness of Paragon together with economical and efficient production methods have brought this product forth as a new standard among paper clays.
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PARAGON CLAY

vidual Drinking Cup Company as successor to W. J. Bringhurst, Manager Fontan has been featuring the new carry-out containers for food products which the firm distributes.

Champion Coated Issues Printers Series

A series of educational talks on Champion coated papers are now being sent to the consumers through the distributors of the Champion mill brands in the Philadelphia territory in line with the policies of the Champion Coated Paper Company, of Hamilton, Ohio. The Philadelphia offices of the Champion company in the Drexel Building, under management of Charles A. Labor, is cooperating with the distributors in the promotion work among the consumers and with those distributors in other cities included in the Atlantic territory and coming under jurisdiction of the Quaker City headquarters. The new series augments the Hand Sample Book which was issued several weeks ago. The special pieces now being sent to the distributors and to the consumers will enable the printers to improve their paper technique and its relationship to printing. The first of the series under caption of "Proper Uses and Layout Ideas For Champion Papers" has been favorably received by the allied industries and has been highly complimented by the consumers. Philadelphia distributors of the Champion who have been distributing the special series are the Paper House of Pennsylvania, A. Hartung, Inc., and the Garrett-Buchanan Company. The Johnston Paper Company, of Harrisburg, Pa.; the Megargee Brothers, Inc., Scranton, Pa.; the Van Reed Paper Company, Division Garrett-Buchanan Company, Reading, Pa.; The Whitaker Paper Company, Baltimore, Md.; F. T. Parsons Paper Company and the Whitaker Paper Company, of Washington, D. C.; Stevens & Co., Inc., Binghamton, N. Y.; Epes-Fitzgerald Paper Company, Columbia, S. C.; Old Dominion Paper Company, Norfolk, Va.; Epes-Fitzgerald Paper Company, Raleigh, N. C., and Richmond, Va., are also under the Philadelphia territory division represented by the local offices. All now distribute the Champion mill brands and are supplied with the series for their customers. Others shortly will follow.

C. T. Gardner With H. C. Davis Paper Co.

Carroll T. Gardner, formerly associated with the Marley Paper Manufacturing Company, of Childs, Md., is now associated with the H. C. Davis Paper Company, representatives of several standard mills and specialty manufacturers, with offices in the Drexel Building. He will represent the firm in the Philadelphia territory. His experiences with the Marley Paper Manufacturing Company, producers of chip board and hanging papers, covered a period of ten years as assistant to the president of the company, J. E. Smith. He will represent the general lines carried by the H. C. Davis Paper Company.

Chase Bag Co. Merges With Philadelphia Bag Co.

Merger of the Chase Bag Company, of Chicago, with the Philadelphia Bag Company, 86 Tasker street, was announced in the past week. The Chase Bag Company through the merger acquires a site for its East Coast factory and distribution outlet. The firm manufactures a line of jute bags and is one of the largest bag manufacturers of this kind in the United States. Having taken over the large plant of the Philadelphia Bag Company, manufacturers of sacks and paper bags and jute products of kindred nature, the Chase Company will expand its business here and continue operation of the plant of the local manufacturers on larger scale. Charles R. Decker, vice president of the Chase Bag Company, was in this city last week conferring with William Morrell, president of the Philadelphia Bag Company, and completing the arrangements for the consolidation of the two companies.

Robert Knowles Mt. Holly Superintendent

Robert Knowles, who was formerly superintendent of the Reading Paper Mills, of Reading, Pa., is now associated with the Mt. Holly Springs Paper Company, as superintendent of the mills at Mt. Holly Springs, Pa. The Mt. Holly Springs Mills recently were taken over by Curtis & Bro. Co., manufacturers of fine papers, with mills at Newark, Del., and with executive headquarters in this city in the Public Ledger Building.

Piqua Straw Board Co. Closes Offices

Offices of the Piqua Strawboard Company, in the Drexel Building, have been closed following the temporary arrangements which placed them under the direction of the Chicago headquarters since the recent death of J. H. Chism, who for many years represented the manufacturers in this city. Manager Anderson of the Chicago offices has been making periodical visits to the Philadelphia eastern offices since the demise of former manager Chism last December. Orders will be filled through the main plant in Piqua, Ohio.

Plans for Cost and Technical Meeting

KALAMAZOO, Mich., April 14, 1930.—Plans for the Tri-State meeting of the Cost and Technical Association of the Paper Industry, which will be held in Kalamazoo May 23 and 24, are progressing satisfactorily. A most interesting and instructive program is assured, according to Harry C. Bradford, chairman of the local committee on arrangements.

There will be programs both Friday and Saturday, with an opportunity Saturday morning for mill visits or golf. Registration Friday morning will be followed by a noon luncheon, with Harry C. Bradford presiding and the welcoming of guests by George Ferguson and Elbert G. Milham, respectively presidents of the Cost Association and Paper Technologists.

The convention will divide Friday afternoon for sectional meetings. The cost section will be presided over by Norman Cowie, with talks on "Insurance" by Harry Mowry and "Depreciation" by Harry C. Bradford, so far announced. The Technical section meeting will be presided over by V. G. Hinemueller, G. S. Brazea will talk on "Some Jordan Experiments" and Roger J. Egan on "Corrugated, Presed or Shredded Pulp?"

An informal dinner will be held on Friday evening, with Mr. Whittington presiding and George Maye as toastmaster. Alfred Greene of the National Lead Company will speak on "Lead, the Precious Metal."

Mill visits and golf will take up Saturday morning. E. J. Turner and James Foxglover being in charge of arrangements. W. Kent Kidder will preside at the luncheon session and "Safety as a Factor in Reducing Costs" will be the subject considered.

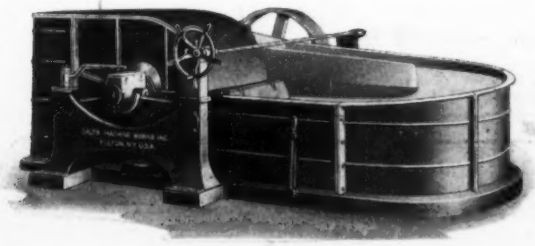
T. J. Burke and Frank Brown are booked to address the Saturday afternoon Cost meeting, with Glen Ingling presiding. R. G. MacDonald, Dr. J. E. Minor and Max Bardeen will address the Technical division, with Carl Schneider in the chair.

The closing dinner will be presided over by Elbert G. Milham while Carl Handy will act as toastmaster. There will be a speaker, also music and other entertainment.

Pulp and Paper Testing Apparatus Bulletins

The Williams Apparatus Company, of Watertown, N. Y., have just issued an attractive and artistic Loose Leaf Folder for binding the various valuable bulletins describing Apparatus for Testing Pulp and Paper, designed by F. M. Williams, consulting chemist and chemical engineer, formerly professor of chemistry and chemical engineering at the Clarkson College of Technology. Mr. Williams is an approved chemist of the Technical Association of the Pulp and Paper Industry and the American Wood Pulp Importers Association.

Bulletins on the following subjects have already been published and are included in the folder: Pulp Testing, Paper Moisture Testing, Freeness Testing Precision Model, Freeness Testing Model B, Sizing and Oil Penetration, hand Made Test Sheets, Dipped and Laid Hand Made Paper, Hydraulic Presses, Electric Centrifuge and Disintegrator, Electric Dresser for Suction Box Covers and Apparatus for Gas Analysis. Copies of the Loose Leaf Folder containing the bulletins may be obtained for the asking.



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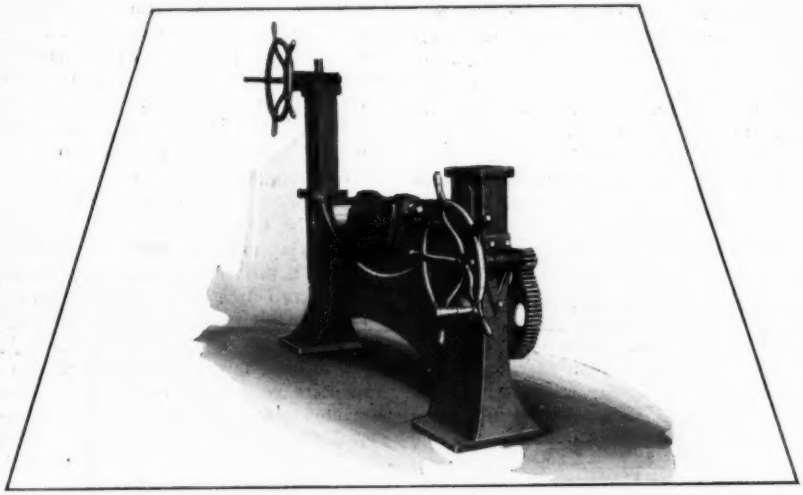
DILTS NEW TYPE BEATING ENGINES

mix more thoroughly, do their work faster and more economically than others.

This is the fifth of a series of advertisements picturing some of the reasons—features, in design and construction—which make Dilts New Type Beating Engines most suitable for your Beater Room requirements . . . *Ask for additional data.*



Here is our LIGHTER STAND adapted to meet the requirements of the modern Beating Engine. It is compact, rugged and designed for precision adjustment.

DILTS MACHINE WORKS INC.
FULTON, N. Y.
"Your Paper Is Made In Your Beaters"

Ontario Paper Manufacturers Fairly Active

Fine Paper Mills Continue Well Employed With Satisfactory Tonnages Moving Into Consumption—Coarse Paper Plants Less Active and Could Handle Larger Volume of Business Than at Present—Coated Paper Mills Experienced Improved Demand

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 14, 1930.—While April is recording somewhat increased sales in wholesale paper circles in Ontario most of the distributors report rather spotty conditions with marked hesitancy on the part of consumers to make other than moderate requisitions for stock. Fine paper lines are selling fairly well but sales for the most part are of the small order variety and quantity buying is practically unknown. This reflects business conditions generally throughout the Province which have been slowed up by reason of the wheat situation in the West and the slowness with which the stock market situation is righting itself. When the wheat pool in the West releases the grain and money becomes freer it is the general belief that the paper market will improve as business and commercial circles increase their consumption of paper. Business firms have been using paper sparingly for some weeks past and even the catalogue trade has fallen off in the general desire to economize, which has made it bad for the printers. Bad business with the printer, however, appears to be confined pretty much to the small plants.

Helped Out the Paper Situation

The big printing and lithographing houses have been doing quite a steady trade during the past month or so and they have helped out the paper situation materially. Not a few of the larger printing houses have been working night shifts. While they have been getting quite a lot of orders there is general complaint that the buyer of printing puts the signing of his paper orders off until the last moment and then wants his job in a hurry. This in turn is passed on to the paper jobber who also is called upon to fill orders hurriedly. All told the paper distributors are not having an easy time just now for what business there is going requires a lot of digging for, while in some lines there is outside competition to be contended with and some cut prices to be met. Despite these conditions, however, there is an optimistic tone to the market and it is generally felt that before the spring months are far advanced the paper situation will have greatly improved.

Fair Activity in the Mill End

A fair degree of activity prevails in the mill end of the trade although most of the plants admit that they are pretty well caught up on orders and that there is not as much business in sight as there was at this time last year. Fine paper mills are well employed and satisfactory tonnages are being turned out and disposed of. On the other hand coarse paper plants manufacturing wrapping, paper bags, etc., could handle a good deal more business than they are getting. Kraft sales are keeping up well and there is a lot of business passing in flour sacks. The coated mills are fairly busy and the situation in this respect appears to be improving. Book paper mills are perhaps the busiest, there being a well sustained demand for the product. Light weight paper plants are quite busy and the sales of tissues, toilets and specialty lines are keeping up well. There is also a fair demand for glassine, waxing and similar paper lines. Conditions in the paper converting department have not improved to the extent expected at this time of the year. While envelopes are enjoying a fair sale, stationery lines and office supplies are moving slowly. The paper box industry could do with a good deal more business, most of the plants being considerably less busy than they were a year ago. Partly as a consequence the demand for board just now is light and board plants are operating on a considerably reduced scale. This means, to some extent, that waste paper supplies to the paper stock dealers have fallen off to some extent creating a rather weak waste paper market.

Freight Rate Battle on News Print

Ontario news print mills are watching with keen interest the fight between the news print interests and the news print mills of Canada and the United States which is now being waged before the Dominion Railway Board. Capital is pitted against capital, big interests against big interests in this expected climax of a dispute which has smouldered for years between the great railway corporations on the one hand and, on the other, the vast paper corporations. Their industry will have the added burden of $2,000,000 a year more in freight rates, the paper men assert, if the railway companies are successful in their application to raise the freight rates on news print shipped from Canadian points to destinations in the Eastern United States. The Canadian carriers have abolished the through rate to the south. Last July the Board suspended application of a new tariff of rates put forward by the railways for news print shipped to the States. The present hearing is to decide whether that suspension shall be lifted, as the railways contend. United States newspapers from Chicago eastward to the Atlantic seaboard and throughout the south are concerned in the enquiry and some of them have filed complaints against the lifting of the suspension.

Another branch of the same dispute is proceeding at present in an investigation now being conducted by the United States Interstate Commerce Commission. The Canadian Railway's position is that the news print mills and United States newspapers endeavored in the first place to control Canadian freight rates by means of the Interstate Commerce Commission of the United States and thereby to reduce Canadian rates to the detriment of Canada. The railways contend that the present rates are lower than the average on all other freight.

Declaring that 85 per cent of Canada's paper production and 80 per cent of its pulp production are exported to the United States, the Canadian Pulp and Paper Association, representing 23 Canadian mills, has filed a brief claiming that the Canadian industry is seriously affected by the present alleged discrimination by carriers between Canadian and United States paper and pulp companies. It is contended that the shipment of Canadian pulp and news print to the southern states has been virtually ended by reason of this alleged discrimination whereby United States producers get lower rates on hauls from United States which are no longer in mileage than the hauls from Canadian points. On this score the Canadian manufacturers are not only opposing the proposed rates increases but are urging reductions from the existing scale.

Against the claims of the news print manufacturers, the railways declare that for some time past they have felt that the existing rates were not satisfactory, that they had borne with the low rates in an effort to develop the industry but proposed now to conclude that policy, and that the rates were too low as compared with export rates or with local rates on shipments for Canadian consumption. Declaring that some of the Canadian paper mills now are working on half time or less, that prices are the lowest since the war, the association asserts that the news print industry now is in "a precarious condition." "Since," it continues, "the prospect is for a continuance of these conditions

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MAKERS of quality products demand the genuine material . . . so Witco imports French Ochre direct from France.

This frequent ocean service caters to your convenience. Profit also from the Witco merchandising position... that of first hands in the distribution of quality products to paper manufacturers.

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CENTURY CARBON CO. AND THE PIONEER ASPHALT CO. WITCO OWNED AND OPERATED:

for an indefinite period, the industry is in no position to stand an increase."

Notes and Jottings of the Trade

Before departing for New Brunswick, where he is to be general manager of Fraser Companies, Ltd., K. S. Mclaughlan, late managing director of the Alliance Paper Mills, Ltd., was tendered a dinner by the executive officials of the latter company at the St. Catharines, Ont., Golf Club, the gathering being presided over by George W. Pauline, the new managing director. A number of outside paper men were among the guests at the dinner. During the evening a presentation of a brief-case was made to Maurice Phelps, assistant superintendent of the sulphite mill at Merritton, who is leaving to join the forces of Crown, Williamette. The presentation was made by H. E. Karberg, superintendent of the sulphite mill.

The ceremony of turning the first sod for the new plant that Burt Business Forms, Ltd., successors to the F. N. Burt Company, Ltd., is about to erect at Mount Dennis, near Toronto, was performed a few days ago in the presence of a large and interested company. The plant is to cost $300,000.

Georgetown, which is one of Ontario's leading paper manufacturing centers, reports employment as having been steady during the winter. About thirty per cent of the population of Georgetown, which is about 2,500 in all, is employed industrially. More than half of these industrial employes find employment in the plants of Alliance Paper Mills, Provincial Paper, and Provincial Coating Mills.

A further appropriation of $150,000 for fire ranging and the purchase of equipment for the Ontario Department of Forestry has been voted by the Ontario Legislature.

June 18 has been selected by the book and writing section of the Canadian Pulp and Paper Association as the date on which the Lincoln Cup will be competed for on the Royal York golf course in Toronto.

At a meeting of the Woodlands section of the Canadian Pulp and Paper Association a few days ago A. P. Costigane, of Toronto, was reappointed to the committee on education.

On behalf of the Canada Paper Company, the Howard Smith Paper Mills is sending out a neat booklet of samples of the Radiant cover stock made by the Canada Company which is now a unit of the Howard Smith concern. The stock is antique finish in seven colors, one basic weight and two sizes, and is designed for cover stock for the lighter booklets, brochures, etc.

William J. C. Wilson, head of the Wilson Stationary and Printing Company, 118 Kind street west, Toronto, died a few days ago at the age of 65 years. Deceased was widely known in the paper and printing trades and had lived in Toronto for 42 years.

Some time ago C. E. French, of the Toronto office of the Howard Smith Paper Mills, Ltd., conceived the idea of perpetuating the name of the president, C. Howard Smith, among the great paper men and business leaders of Canada and enlisting the co-operation of a number of salesmen and executives of the company, had an oil painting of the president done by a leading Canadian artist. The portrait was informally presented to Mr. Smith at his residence in Montreal a few days ago and will likely be hung in the head office of the company in Montreal.

H. L. Thompson, president of Copp, Clark & Co., Ltd., publishers, Toronto, received the congratulations of many of his friends in the paper business a few days ago on the occasion of his celebration of his 80th birthday. Mr. Thompson is still hale and hearty and takes an active interest in the welfare of his company.

A large representation of the Toronto paper box manufacturers was present at the official opening of the new plant recently completed by Meredith Simmons & Co., glue manufacturers, on Wallace Avenue a few days ago.

The wholesale paper group of the Toronto Typothetae were present at a luncheon given this week in the Prince George Hotel by the Typothetae at which an excellent address on "The Romance of Printing Ink" was given by W. C. Kettlewell, managing director of Charles Bush, Ltd., Toronto, and a former president of the Toronto Rotary Club.

Boston Paper Trade Happenings

BOSTON, Mass., April 14, 1930.—Charles Dodge, of the International Paper Company, formerly of the Forbes Lithograph Manufacturing Company, discussed the offset process April 12 at the fourth in the series of educational meetings being held by Carter Rice & Co. Corp. in regard to printing and allied processes in relation to paper. With a background of many years' experience in this process Mr. Dodge gave a most interesting and instructive talk, suggesting papers which the members of the sales force of Carter Rice & Co. Corp. should recommend to their customers for offset work.

Carter Rice & Co. Corp. are preparing a sample book, soon to be ready for distribution, showing their improved line of Snowflake Bond, an old established line of this company. Recently they have added new features in a brighter white, deeper colors and immaculate cleanliness. The paper is made in a variety of colors, sizes and weights and has a good printing and writing surface. The company feel that the paper is of outstanding value in the sulphite bond field.

Through an attractive folder the company will soon announce to their customers a change to the mill brand name Seafoam on the spun-flax grade of onion skin bond. This change is in name only, however, as the paper retains the same features. The paper, made by the Brownville (N. Y.) Paper Company, is recognized universally as one of the most perfect bonds for direct mail advertising, for printed form work and for carbon copies. The announcement will be followed during the year by other attractive mailing pieces advertising this line.

Col. J. P. Jordan, of the Jordan Card and Paper Company, recently celebrated his 84th birthday by a dinner at a Boston restaurant to his immediate and old-time associates. The colonel was as genial as usual and the affair was one long to be remembered by those present.

After more than eleven years of supervising the manufacture and sales of Primus kraft paper and Primus gummed tape, B. Milton Kimball and Roger Q. Pease have resigned as directors of the Nashua Paper Company, East Pepperell, Mass. They have associated themselves with the Gilman Paper Company, Gilman, Vt., in full charge of the manufacture and sales of Green Mountain Kraft.

F. Bendel Tracy, head of the Fort Hill Paper Company, and secretary of the Boston Paper Trade Association, has returned from a trip of combined business and pleasure to Norfolk, Va., on which he was accompanied by Mrs. Tracy. On the outgoing portion of the trip, which they made by boat, the weather was the roughest experienced in five years, according to the captain. Mr. and Mrs. Tracy returned by train.

Walter E. Pratt, president of Hollingsworth & Whitney Company, has returned from a month's visit to Florida.

John F. Wilson, advertising manager for Carter Rice & Co. Corp., and Mrs. Wilson are receiving congratulations on the birth of a daughter.

E. J. Smith, manager of the Boston agency of the United Paperboard Company, has returned from a brief visit to the New York office. E. D. Reynolds, salesman for this company, has returned to Boston after four months at the Syracuse (N. Y.) agency.

General Paper Co. Made L. L. Brown Agent

LOS ANGELES, Cal., April 12, 1930.—The General Paper Company of Los Angeles has been appointed agent for Brown's Linen Typewriter Papers, one of the certified lines of the L. L. Brown Paper Company of Adams, Mass.

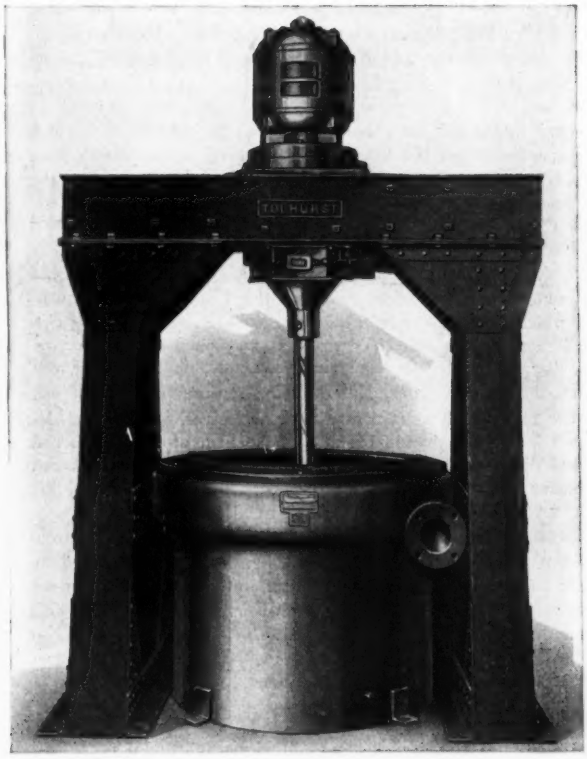
The General Paper Company was recently made an agent for L. L. Brown's Advance Bond.

"MADE IN HEAVEN"

"This sheet's clean—clean enough to have been made in Heaven!" exclaimed a paper buyer.

"You're right", replied the salesman. "Our superintendent says the mill is like Heaven nowadays. Our machines are equipped with Tolhurst Centrifugals; the whole of every run is just as clean as this."

Twenty-three machines are either equipped or are now being equipped to make clean paper—with Tolhurst Centrifugals. The coupon will bring you our new bulletin, printed on paper from one of these Centrifugal-equipped machines.



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Tolhurst Centrifugals for the purification of paper stock are manufactured under license from the Centrifugal Engineering & Patents Corp., owners of the Erkensator patents.

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Centrifugals

New York Office: 30 Church St. *Chicago Office: 8 So. Dearborn St.*

TOLHURST MACHINE WORKS, INC., 653 W. Fulton Street, Troy, N. Y.
Gentlemen:— Please send me your latest Tolhurst Centrifugal Bulletin, printed on Centrifugally treated stock.

Name..... Position.....

Mill..... Address.....

3894

Obituary

Oluf E. Kiaer

Oluf E. Kiaer, pulp importer, of 521 Fifth Avenue, New York, died in a New York Hospital on Friday, March 21, aged 35. His death brought out numerous expressions of sympathy and condolence for his family from many who mourned the passing of one of the most engaging figures in New York pulp and paper circles, one who possessed a captivating personality and who had a splendid future before him.

Mr. Kiaer was taken ill on March 15, his malady being diagnosed as appendicitis. After being removed to the Bronxville Hospital an operation was performed, but peritonitis set in and proved fatal. During his illness he was visited by his brother, Herman Kiaer, of the Abitibi Power and Paper Company, Iroquois Falls, Ont., who took charge of his affairs.

The late Mr. Kiaer belonged to one of the best families in Norway. Many of his relatives are heavily interested in pulp and paper concerns, the name Kiaer figuring on the directorates of several important Swedish and Norwegian companies like the Hjerpens Cellulosafabrik och Pappersfabrik, Hjerpens, Sweden; Greaker Cellulosefabrik, Oslo; Lillestroms Cellulosefabrik, Oslo; and Ranheim Papirfabrik, Ranheim, Norway.

He was born in Oslo thirty-five years ago and received his early education there before going to the University of Norway from which he was graduated in due course. He came to the United States some fifteen years ago and opened an office as agent for a Norwegian explosives company, and subsequently formed the firm of Buck, Kaier & Co., representing Norwegian iron ore mines and manufacturers of explosives, which later developed into a wood pulp business. The firm of Buck, Kiaer & Co., was dissolved two years ago, after which Mr. Kiaer continued the business successfully on his own account to the time of his death. An administrator will be appointed for the estate.

The funeral services, held in the Norwegian Seaman's Church, Brooklyn, N. Y. on Tuesday, March 24, were largely attended by friends of the deceased and the floral offerings were of great beauty. In acordance with the wishes of his parents, the body was cremated and the ashes sent to Norway.

Arthur G. Towne

Arthur G. Towne, formerly a member of the firm of Blake, Moffitt & Towne, pioneer paper merchants of the Pacific Coast, died at his home in San Francisco on Friday, April 4, at the age of 73 years. A long illness had forced Mr. Towne's retirement from active business several years ago, prior to which time he was president of Blake, Moffitt & Towne. He is survived by his wife, Alice N. Towne, and by two sons, James W., and Arthur W. Towne, who are also connected with Blake, Moffitt & Towne. His immediate relatives include Mrs. Hugo Richards of Prescott, Ariz.; Mrs. Frank W. Wilson of Bronxville, N. Y. and three brothers, Frank B.; Edward S., and Joseph M. Towne who are associated together in the control of the National Blank Book Company, of Holyoke, Mass.

Arthur G. Towne was a son of James W. Towne, who, with Francis Blake and James Moffitt, founded the institution which today bears their names. Mr. Towne was a native of San Francisco, where he spent his early childhood and attended school. At the age of twelve, his family moved East to live in East Orange, N. J. Here he completed school and then learned the printing business in New York City. His father at this time was the resident partner of the New York office of the pioneer house he had helped to establish. It was therefore not surprising that his eldest son should go West to enter this firm. Thus, about 1880, Mr. Towne began his career in the paper business which was to extend over a period of more than forty-five years. He lived to see the company grow from a single warehouse in San Francisco to a chain of seventeen Divisions up and down the Pacific Coast. Mr. Towne was a man greatly respected throughout the trade for his judgment, integrity and high sense of fairness in business dealings. He leaves many friends who mourn his passing.

H. W. Southworth

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 15, 1930.—Word was received here last week of the death in England of Horatio Woodburn Southworth, 91, for many years president and treasurer of the Southworth Paper Company, of Mittineague. Constant Southworth, present treasurer of the Hampshire Paper Company, of South Hadley Falls, is a distant relative of the deceased. His grandfather and Horatio were prominently identified with the paper industry in this section in earlier days.

Horatio W. Southworth was born January 15, 1838. He studied at Yale College but withdrew to enter the Southworth Company at Mittineague founded by his father, Wells Southworth, and his uncle, Edward Southworth. He became treasurer in 1873 and president in 1891, retiring in 1914. He lived in New York City during the 90's but after 1900 spent long periods in England and the south of France returning to this country occasionally. During the latter part of his life he resided at Boscombe, Bournemouth, in the south of England. He was much interested in genealogy and religious subjects and wrote several controversial articles on the latter subjects. He was a descendant of Constant Southworth, whose mother, Alice Carpenter Southworth, became the second wife of Governor Bradford of Plymouth colony. He left a widow, but no children.

B. A. Judd

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 15, 1930.—Word has been received here of the death at Cleveland, Ohio, of Bernard A. Judd, connected with the Petrequin Paper Company of that city. Mr. Judd started in the paper products business with the White & Wyckoff Company of this city becoming purchasing agent; from Holyoke he went first to Rochester, N. Y., with the Alling & Cory Company. He left Holyoke about twenty years ago. One son, Morgan, is connected with the same Cleveland company. He leaves two other children, Edward Payson and Ruth, a student at the Connecticut College for Women.

News Print Production for March

Production of news print in Canada during March, 1930, amounted to 207,485 tons and shipments to 208,629 tons according to the News Print Service Bureau. Production in the United States was 113,328 tons and shipments 109,686 tons, making a total United States and Canadian news print production of 320,813 tons and shipments of 318,315 tons. During March, 23,579 tons of news print were made in Newfoundland and 1,642 tons in Mexico, so that the total North American production for the month amounted to 346,034 tons.

The Canadian mills produced 15,076 tons less in the first three months of 1930 than in the first three months of 1929, which was a decrease of 2 per cent. The United States output was 7,725 tons or 2 per cent more than for the first three months of 1929. Production in Newfoundland was 8,343 tons or 14 per cent more in the first three months of 1930 than in 1929 and in Mexico 100 tons less, making a total increase of 882 tons or about the same as in 1929.

During March the Canadian mills operated at 68.4 per cent of rated capacity, United States mills at 80.3 per cent and Newfoundland mills at 98.5 per cent. Stock of news print paper at Canadian mills totalled 38,661 tons at the end of March and at United States mills 24,004 tons, making a combined total of 62,665 tons which was equivalent to 3.7 days' average production.

Repeat Orders Prove!

The Efficiency of XCEM SLIME REMOVER

Is testified to by the Repeat Orders we are constantly receiving from all parts of the United States and Canada.

The results that are obtained have merited this widespread adoption.

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We manufacture Industrial Cleaning Compounds for every purpose and would welcome your inquiries on Cleansing Problems of any nature.

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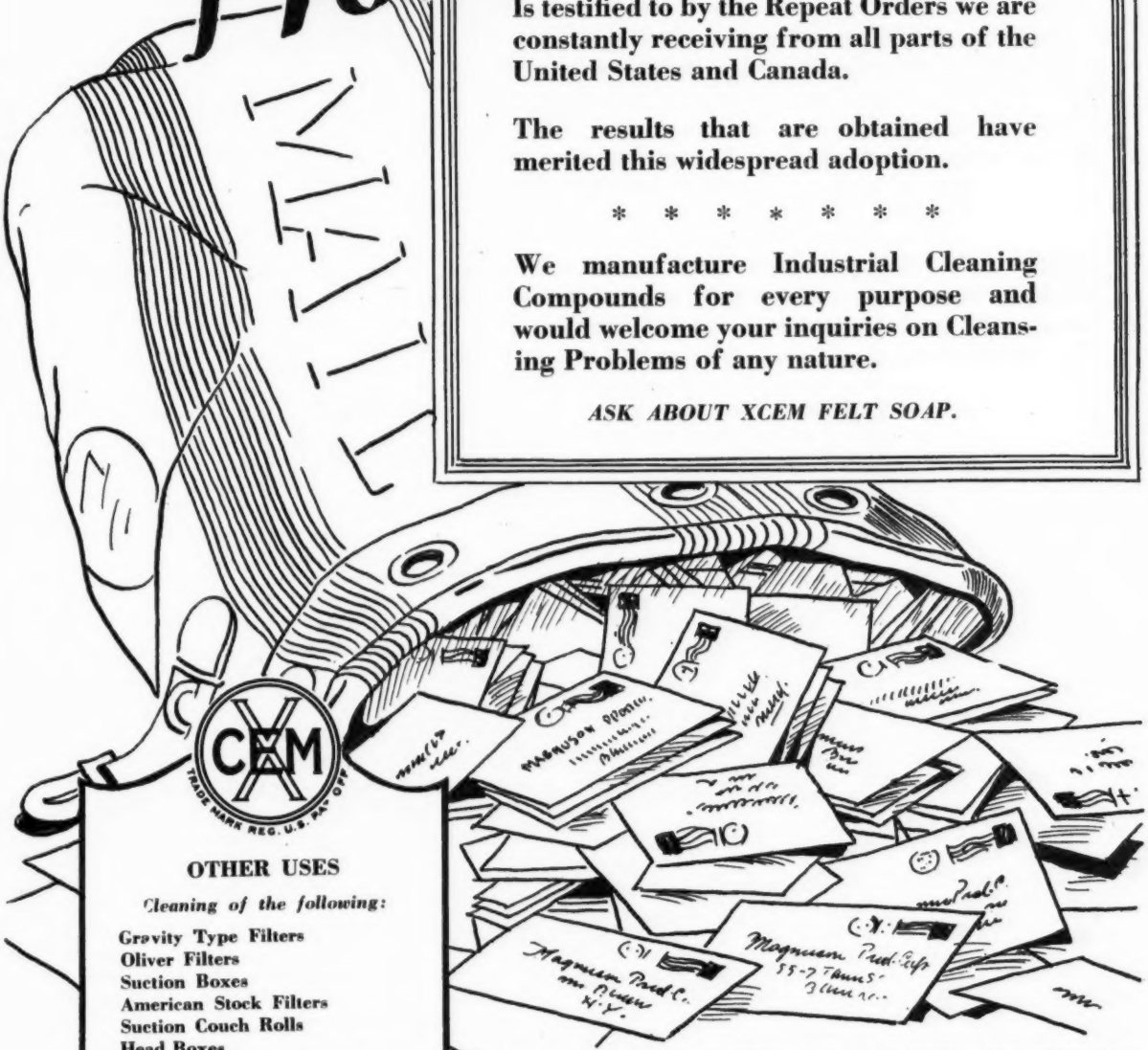

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Cleaning of the following:

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BALTIMORE — TOLEDO

In Canada: MONTREAL

MAGNUSON PRODUCTS CORPOR.

Manufacturers of Chemical Specialties

55-57 Third Street—B'klyn, N.Y.

New York Trade Jottings

International Paper and Power Company, New York, has declared the regular quarterly dividend of 60 cents on Class A common, payable May 15 to stock of record May 1.

* * *

Prevailing conditions in the paper stock market was freely discussed at a meeting of the New York Association of Dealers in Paper Mills' Supplies, Inc., held last Thursday at Conte's Restaurant.

* * *

The Lincoln Paper Stock Company, of 169 Lincoln Avenue, New York, in business under this name since 1918, has been incorporated under the laws of the State of New York, with a capital stock of $50,000. Anthony Nicoletti is president and treasurer of the corporation and John Capozzollo is vice-president.

* * *

E. G. Bullis, sales manager of the Groveton Paper Company, Inc., of Groveton, New Hampshire, with headquarters at 11 West 42nd street, New York, announces the following acquisitions to the sales force: Haywood H. Allen, formerly with the American Writing Paper Company; William B. Bracken; and Richard C. Harris, a well-known paper man; all of whom started their new duties last Monday, April 14.

* * *

M. A. Williamson, publishing director of *Food Industries*, addressed the regular weekly meeting and luncheon of the New York Division of the Salesmen's Association of the Paper Industry last Monday at the Fraternities Club. The subject of Mr. Williamson's talk was "Quick Freezing of Foods in Relation to the Paper Industry," which he covered in an interesting and comprehensive manner. There was an excellent attendance of members and guests.

Conferees Complete Paper Schedule

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 16, 1930.—The conferees on the tariff bill on Monday completed their work on the paper schedule, except that they did not decide definitely on the countervailing duty clause on paper.

In paragraph 1402 dealing with paperboard and wallboard the conferees accepted the Senate language in that paragraph as an addition as follows: "plate finished, supercalendered or friction calendered, laminated by means of an adhesive substance, coated, surface stained or dyed, lined or vat lined * * ".

The following changes were also adopted by the conferees in which are given first the rates agreed on with the House rate next and the Senate rate last:

Manufactures of pulp, n. s. p. f., 30 per cent; House 25; Senate 30.

Plain basic paper for sensitizing, for the manufacture of blue print, brown print, 20 per cent; House 20 per cent; Senate 3 cents a pound plus 10 per cent. Same, for use in manufacture of photographic paper, 5 per cent; House 5; Senate 3 cents a pound plus 10 per cent.

Albumenized or sensitized paper, blue print or brown print, 25 per cent; House 25; Senate 3 cents a pound plus 20 per cent. Same, photographic, 30 per cent; House 30; Senate 3 cents a pound plus 20 per cent.

Baryta-coated paper, 5 per cent; House 5; Senate 3 cents a pound plus 20 per cent.

Transparencies, printed lithographically or otherwise, not more than five printings, 40 per cent; House 40; Senate 25 cents a pound. Same, more than five printings, 50 per cent; House 50; Senate 25 cents a pound.

Decalcomanias in ceramic colors, weighing not over 100 pounds per 1,000 sheets, $1.25 a pound plus 15 per cent; House $1.40 plus 15; Senate $1.25 plus 15. Same, weighing over 100 pounds per 1,000 shells, 30 cents a pound plus 15 per cent; House 35 plus 15; Senate 30 plus 15.

Other lithographically printed matter, n. s. p. f., between 8/1000 and 12/1000 inch, 30 cents a pound; House 15; Senate 30. Same, exceeding 12/1000 but not 20/1000 inch in thickness, if either die-cut or embossed, ¾ cent a pound; House 1; Senate ½. Same, if both die-cut or embossed, 1½ cents; House 2; Senate 1. Same, exceeding 20/1000 inch in thickness, 8¼ cents a pound; House 10; Senate 7½.

The conferees retained the Senate proviso on paper envelopes containing merchandise, making such envelopes dutiable at the rate applicable to their contents but not less than the rates provided on envelopes.

Wall paper not printed, lithographed, etc., ¼ cent a pound plus 10 per cent; House, ¼ plus 10; Senate, 10 per cent. Same, printed, lithographed, etc., 30 per cent; House, 30; Senate, 1½ cents a pound plus 30 per cent.

Filtering paper, 5 cents a pound plus 15 per cent; House, 30 per cent; Senate, 5 plus 15.

Cover paper, 30 per cent; House, 30; Senate, 20.

Greeting cards with texts, 45 per cent; House, 45 or 35; Senate, 45 per cent. Same without text, 30 per cent; House, 45 or 35; Senate, 30.

Ribbon fly catchers, 35 per cent; House, 35; Senate, 45.

Tubes, used for holding yarns or thread; parallel, 1 cent a pound plus 25 per cent; House, 35 per cent; Senate, 2 plus 25. Same, tapered, 3 cents a pound plus 35 per cent; House, 35 per cent; Senate, 5 plus 35.

The conferees also accepted a Senate provision that exported books of domestic manufacture, when returned to the United States after having been advanced in value or improved in condition by any process of manufacture or other means, shall, under rules and regulations prescribed by the Secretary of the Treasury, be dutiable only on the cost of materials added and labor performed in a foreign country.

Rates on all other grades of paper not mentioned above were not in controversy having passed both Houses of Congress in the same way. They have already been given in full in previous issues of PAPER TRADE JOURNAL.

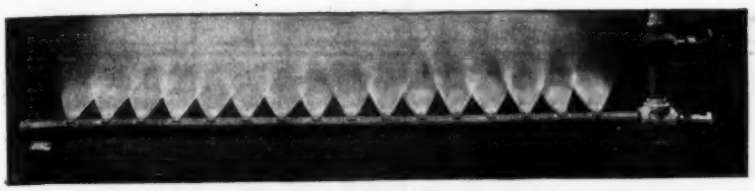
Boston Paper Trade Conditions

BOSTON, Mass., April 14, 1930.—The paper market here is somewhat improved, although as a whole far from satisfactory. Since April 1 there has been more activity than during March, according to estimates, and the latter part of the preceding month brought more demand than the early part. At best, however, dealers feel that the demand is not what it should be for the month so far, but entertain hopes that conditions will continue to improve.

The kraft situation is not much better than it was. In this market the trade feel that the demand should be more active. No. 2 kraft is rather slack, and price conditions are still unsettled. A dealer says that No. 2 kraft has been a regular football for the last few months.

Box board prices are firm, but have not advanced, at least quotably. Recurring statements are made that higher prices will obtain before long. There are reports that developments are under way which will result in an even greater firmness than now exists.

The paper stock market is said to be in the midst of a readjustment period brought about by a quiet business. Prices generally are tending downward, although in a few instances higher levels are quoted. Old newspapers are quoted at .35 to .40 f.o.b. Boston, compared with a previous range of .40 to .45. Corrugated papers have advanced, and are quotable at .45, compared with .35. In bagging, jute wool strings are at .90 to 1.00.



M. & W. Criss Cross Shower Pipes

"WILL NOT RIDGE THE WIRES"

For Fourdrinier Wires, Paper Machine Felts and Screen Plates

Try one of these Criss Cross Shower Pipes for 30 days on some part of your mill equipment on which you are having Shower Pipe Troubles. If not satisfied with results it can be returned • • • •

Criss Cross Shower Pipe Sprays Stays Clean

• • • We feel assured you will agree with the following statements regarding Criss Cross Showers: Keeps the slots on Screen Plates open • • • Cleans Fourdrinier Wires thoroughly--full width • • • No dirt can lodge in the plate slots, or in the wire mesh • • • Patented deflector causes equal force every inch of face • • • Shower water not used unnecessarily • • • White water can be used if desired, without clogging shower pipe. Send for dimension card for ordering. • • •

THE MOORE & WHITE CO., NORTH PHILA. STATION PHILADELPHIA, PA.

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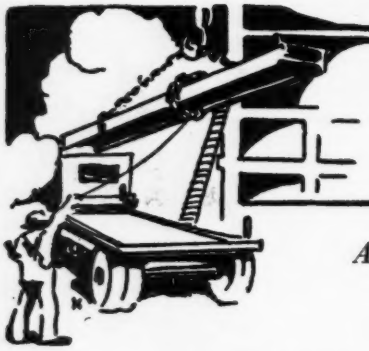

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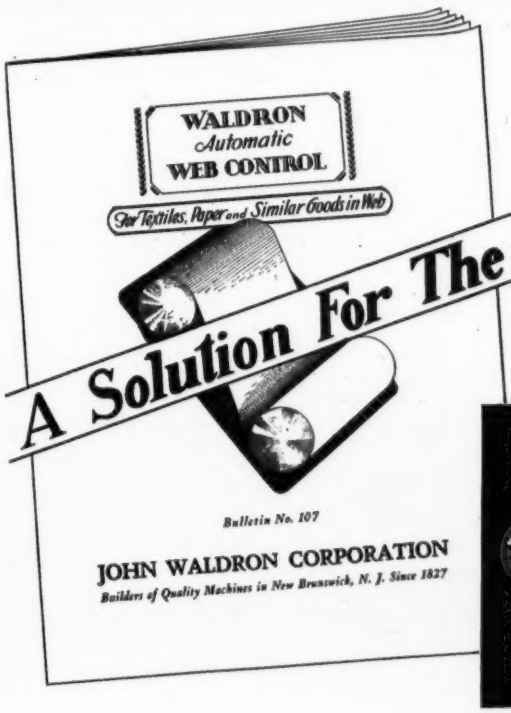
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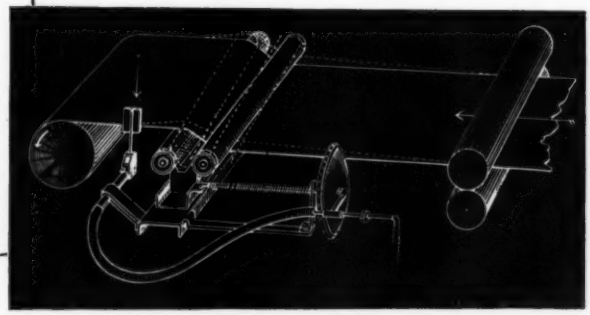

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The bulletin illustrated and just issued has been prepared by engineers who have devoted years of study to the perfection of this successful method of control. It is a highly instructive discussion on the problems involved and contains full description, specifications and illustrations of the various types of Waldron-Dickhaut Automatic Web Guides, also Waldron Automatic Tensions that are proving so successful in paper and textile plants. We will gladly send it to any superintendent or production executive who is interested in securing a more uniformly finished product, a more uniform bundle, and the elimination of waste.

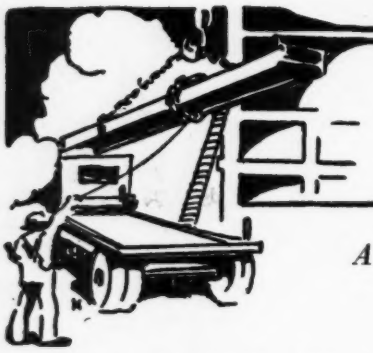
SIMPLY MAIL THIS COUPON FOR YOUR COPY

JOHN WALDRON CORPORATION
NEW BRUNSWICK, N. J.

Send me without obligation your new bulletin describing Waldron Automatic Web Control.

Company Name and Address .....

Attention of .....Position .....



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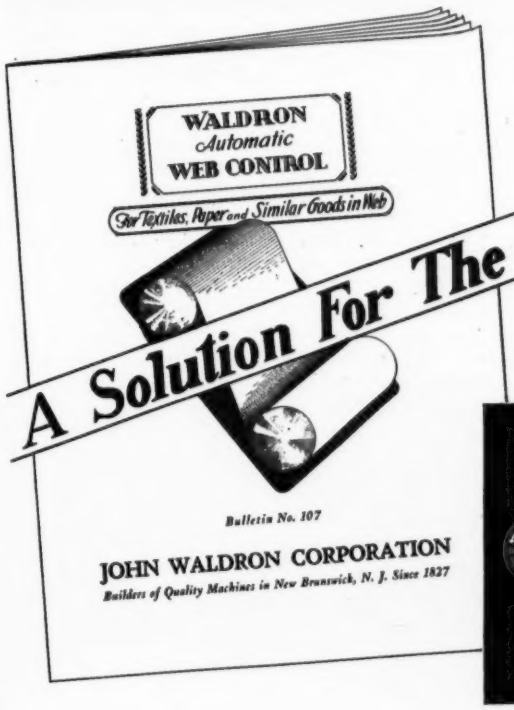
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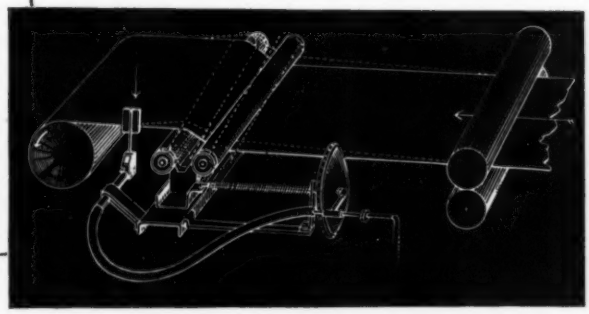

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The increased widths and speeds of webs that are now being processed and converted has brought about correspondingly increased difficulties in holding the material to its correct course in the processing operation. Manually controlled guides and tension devices cannot satisfactorily cope with present operating conditions. Uneven travel of goods results in poor bundles, while improper tension has a disastrous effect upon the finished material.

The Waldron-Dickhaut Automatic Web Guide completely meets the new requirements, supplying the need for proper web control and positive assurance of goods following their anticipated center line course. It regulates the guiding automatically, eliminating the necessity for constant adjusting. It is based upon the principle of changing the angle of the lead roll thereby guiding the web while maintaining a uniform surface contact across the web and without danger of injury to the edge of the goods.

The bulletin illustrated and just issued has been prepared by engineers who have devoted years of study to the perfection of this successful method of control. It is a highly instructive discussion on the problems involved and contains full description, specifications and illustrations of the various types of Waldron-Dickhaut Automatic Web Guides, also Waldron Automatic Tensions that are proving so successful in paper and textile plants. We will gladly send it to any superintendent or production executive who is interested in securing a more uniformly finished product, a more uniform bundle, and the elimination of waste.

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and other containers, recently reported in these columns. The new mill will occupy a site secured from the Capstan Glass Company, Connellsville, under lease, and the last noted organization has awarded a contract to the Austin Company, Union Trust Building, Pittsburgh, Pa., for construction of the new paper goods plant, consisting of a one-story, brick and steel unit, 150x340 feet, reported to cost over $175,000, with equipment. It is proposed to have the structure ready for service at earliest possible date, when the Fort Wayne company will proceed with installation of necessary equipment. It is understood that a portion of the output will be devoted to corrugated containers for glass service for the Capstan organization.

Gatineau, Que.—The Canadian International Paper Company, Montreal, has begun the construction of a new boiler plant at its mill properties at Gatineau, near the Ottawa River, and is awarding contracts for primary equipment. The unit has been designed to provide for installation of five boilers of Widwell type, manufactured by Canadian Vickers, Ltd., Montreal. Each boiler will have a rating of 5,200 boiler horsepower. The entire plant is reported to cost more than $400,000, with equipment.

Juan Ortiz, Argentina—Cellulosa Argentina, Ltd., recently organized with a capital of 1,500,000 pesos (about $636,750, United States currency) has begun the construction of a new paper mill at Juan Ortiz, about 8 miles from Rosario, for the manufacture of paper products, utilizing linseed and wheat straws as source of raw material. The plant will consist of four buildings, one of which is now nearing completion, and others scheduled to be finished before the close of the year. The mill is estimated to cost approximately $500,000, of which a considerable part will be used for machinery. The plant will have an initial capacity of about 8,000 metric tons per annum, and will be used largely for the manufacture of book and writing papers, as well as wrapping stocks and kindred papers. The American Consulate, Buenos Aires, Argentina, has information regarding the project.

New Companies, Etc.

New Orleans, La.—The D. & W. Paper Company, New Orleans, has been incorporated with a capital of $150,000, to manufacture and deal in paper products. Samuel H. Marcuse, 2731 Napoleon street, New Orleans, heads the company.

New York, N. Y.—The Sovereigh Products, Inc., has been incorporated with a capital of $50,000, to manufacture and deal in paper products of various kinds. The incorporators are J. M. Bush, Negaunee, Mich.; M. B. Wallace, 818 Olive street, St. Louis, Mo., and Ned G. Begle, Grand Central Terminal, New York. Last noted will be representative.

Novel Method of Splicing Cores

M. P. Fitzpatrick, boss finisher of the Port Alfred Pulp and Paper Corporation, Port Alfred, P. Q., observed and was impressed by the large and continual waste in the various mills in which he has worked in the handling of cores. Every mill has some obsolete or damaged cores on hand, and some mills have a great many that have been prepared and were in use for certain size rolls for certain customers, but with changing conditions in the press rooms, and the changing of customers, paper mills have found themselves with many thousand feet of cores, in sizes impossible to use, with a resultant tie-up of capital and valuable storage space.

With the present tendency to distribute orders to get the most direct and rapid delivery to the customer, there has been some readjusment of accounts, and this also has left cores in stock which might stay there for years, but which "coresplice" releases for immediate use in any size roll. Among other sources of waste are cores damaged by flattening through the dropping of a roll, or other injury to the core in transit. With "Coresplice," the damaged or flattened part can be sawed out, a good piece of core put in to replace it, and thus cores, whose usefulness ended usually in ten or twelve trips, can be used indefinitely. To cut a full size core down to a half size when only a few inches of damage was done is a very serious waste, but "cutting a core longer" is quite a different problem, and, of course, the only solution was to splice two pieces so that the resulting core would be straight, sound and true, and equally as strong as a corresponding piece of new core.

Fitzpatrick's success in developing a method for splicing cores without the addition of any foreign material has been in actual service long enough to demonstrate without question the success of his process. Patents have been applied for in Canada, the United States and abroad.

Let us assume that there are on hand several thousands of cores that have been made over a certain period of time for a customer taking 68-inch rolls, and new contracts discontinue that size and call for sizes 69, 70, 71, 72 and 73 inches. This situation surely gives the boss finisher something to worry over, for immediately he has tied up thousands of dollars in cores he cannot use, and he must either manufacture or buy new cores for this new business, which in turn may change to again different sizes, with a further tie up of cores and capital, and so it is a never ending problem. There are mills in fact that have actually cleared out to employees, free of charge, thousands of obsolete size cores for fire-wood, in order to gain storage space, irrespective of the fact that they represented an investment of practically one cent per inch.

With Fitzpatrick's method, a 68-inch core can be taken and with any 10-inch piece of core, a perfectly good 72-inch core can be made at a cost of not quite one cent.

With the tools designed, a bevel is reamed out on the inside of one piece and with the same tool a bevel tip with a square shoulder is out on the other piece. The male and female ends make a perfect joint, no foreign material having been introduced. In putting the pieces together, a small amount of adhesive makes the point permanent, and the core has been found actually strongest at the spliced joint. Furthermore, the resulting new size made by the splice is perfectly round and straight and runs on the winder and on the press with the same trueness as the new core.

Spliced cores that have been returned to the mill as many as four or five times have been found in excellent condition, so that splicing not only saves the tieing up of a large amount of capital in obsolete and useless size cores, but it makes a core out of any two old pieces as good as the original, and an inch of waste or an obsolete core in a paper mill basement can be made a thing of the past.

M. P. Fitzptrick has appointed as selling agents in Canada, United States and abroad, the Pulp and Paper Mill Supply Company, of Chicoutimi, P. Q., Canada.

Sutherland Paper Co. Damaged by Fire

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., April 15, 1930.—A match applied by an 11 year old boy to paper stock in the warehouse of the Standard division of the Sutherland Paper Company, North Pitcher street, caused damage Sunday and Monday approximating $50,000, according to L. W. Sutherland, president. The warehouse contained over 3,000 tons of paper stock.

The boy, who has been arrested and is now being held, has, according to the police, confessed. He wanted to see the fire department come out, so started the blaze and then ran from the scene, only to return and be detected by a bystander as the lad he had noticed running away from the burning building. Firemen were 48 hours on the scene of the conflagration, before the flames were subdued.

There have been two or three fires at the Sutherland plant during the past three months, all believed to be of incendiary origin. The loss has been small in all previous fires.

The warehouse visited is a corrugated steel structure without partitions and paper stock is unloaded direct from cars by an overhead crane. The roof sustained serious damage.

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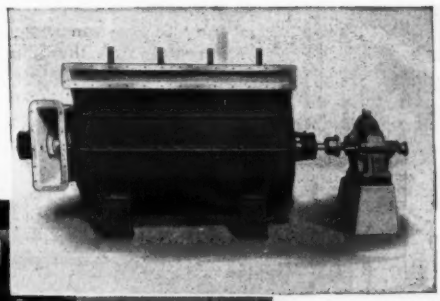

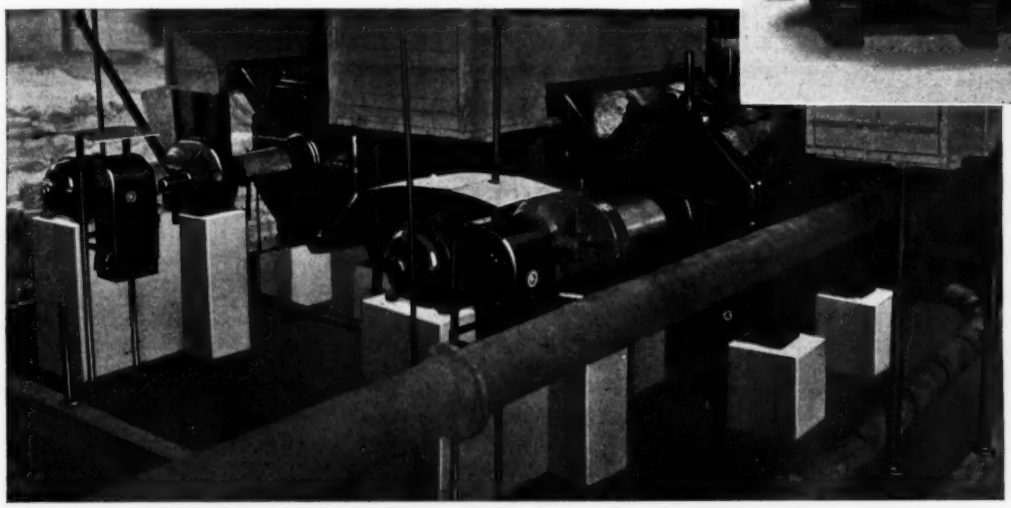

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Therefore, let us tell you in detail what this proven screen is capable of doing for you. Address the Valley Iron Works Co., Appleton, Wisconsin.

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POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by Reginald Trautschold Consulting Engineer

Pressure and Temperature Instruments

Govern Efficiency in Power Plant and Mill Operations

The economical operation of power plant and mill is hedged in on all sides by considerations of pressure and temperature. These questions are, in fact, the indices of the conditions essential for the satisfactory conduct of virtually every step in power generation and utilization, from the viewpoint of mechanical efficiency, and for the economical consummation of almost all the operations and processes entailed in pulp and paper production, so far as mill conduct is concerned. Effective control of production costs requires, consequently, an intimate knowledge of pressure and temperature conditions at all critical points, by which the efficiency and economy of each operation and process may be gauged. Step be step, pressures for mechanical operations and temperatures for thermal processes should be measured and checked, in order to guard against inefficiencies of all kinds and to gauge the effectiveness of operations and the efficiency of the equipment employed.

The need of using pressure and temperature instruments to acquire a knowledge of these conditions in many specific operations is quite universally recognized today, of course, and need not be enlarged upon, but there are many other applications of pressure and temperature instruments which are far less familiar and with which every mill should be acquainted. These latter have almost without exception proved to be highly influential in effecting cost reductions by supplying information indicating advisable modifications and improvements in power plant operation and mill conduct. Naturally, all such applications and advisable uses of pressure and temperature instruments cannot be taken up, nor is it practical to attempt other than the presentation of more or less fragmentary and unrelated notes concerning a few of these applications.

Control in Power Process Cycle

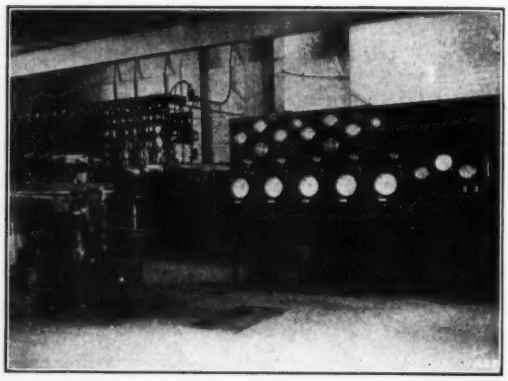
The group of five recording meters in a corner of the power plant of the Minnesota and Ontario Paper Company, International Falls, Minn., shown in the illustration, is an excellent example of such an installation in an important power process cycle. The five instruments are of the mechanically operated type and record steam pressures and temperatures as well as steam flow, the three graphs traced on the same chart. Two of the meters measure the initial steam supplied to two high-pressure, multi-stage turbines. Another of the meters is provided with two temperature recorders and measures both the temperature of the steam bled from one of these turbines at about 125 pounds and the temperature of the steam exhausted by the same turbine at approximately 30 pounds per square inch. A fourth meter is used to record and integrate the total steam bled from the two multi-stage turbines and at the same time to record the temperatures of the steam bled from and of the steam exhausted by the second turbine. The fifth of this group of meters is used to record and integrate the amount of makeup steam supplied to the process system through a reducing valve from the high-pressure steam line, measuring both pressures and temperatures.

With this system of instruments, the engineer in charge is supplied with an exact record of how much of the potential energy in the steam is used for power and what percentage is used for process work in the mill. This information enables the mill's cost department to keep accurate accounts concerning the cost of power and the cost of process steam. The instant any faulty operation develops, the fact is shown by the instruments and the necessary corrections can be made at once, effecting important savings by the prevention of wastes which, had they not been instantly noted by the instruments, might easily impose a considerable expense burden before they were detected.

The approximate investment entailed for this group of five instruments was in the neighborhood of $2,500.00. This, in view of the establishment's truly heavy daily tonnage output, in papers, pulps and boards, has unquestionably proved an extremely economical form of insurance.

Meter Control of Heat Reclaimers

Another excellent depiction of pressure and temperature instruments in an important power plant service is that shown on the meter panels at the station of the Consolidated Water, Power and Paper Company, Wisconsin Rapids, Wis. The three-pen tempera-

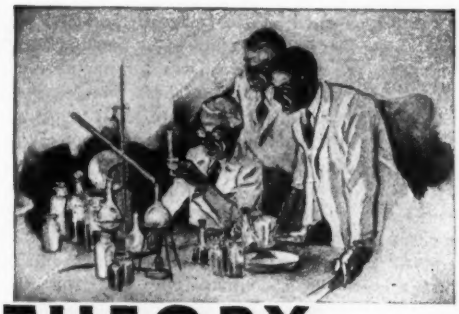


Courtesy: Bailey Meter Co.

FIG. 1.

Five recording meters register steam pressure and temperature as well as rate of steam flow in an important power process cycle at the Minnesota & Ontario Paper Co., International Falls, Minn.

WHAT HAS THEORY TO DO WITH PRACTICAL LUBRICATION?



Effective lubrication is far more than a matter for "rule of thumb" decisions—of "trial and error."

You can't know the losses due to obsolete lubricants or methods until you've tried something better. It's a slow and costly way to arrive at the point where your equipment is really effectively lubricated.

But there are theoretical conditions in every bearing that have to be met. The Texas Company has been a leader in the study of these conditions and the developments of specialized lubricants to meet them. This understanding of the theory of lubrication and the years of experience in the manufacture and use of lubricants is back of every Texaco Lubrication Engineer.

It is yours to command. If you have a lubricating problem—or just to satisfy yourself about your own lubricating methods—call or write The Texas Company. A Texaco Engineer will be glad to call and make a lubricating survey of your plant without obligation. Talk with him frankly and freely.

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ture recorders mounted on the fronts of the boiler panels, to the left, record the flue gas temperatures leaving the boilers, flue gas temperatures leaving the economizers and the flue gas temperatures leaving the air preheaters. These three very critical temperatures for the respective boilers are plotted in graph form on the same chart and simultaneously, so that the power plant operator has before him a continuous and clear cut picture of the effectiveness with which the heat reclamation is effected. Mounted on the sides of the same panels are similar instruments which record the temperatures of the air entering and leaving the preheaters and the water temperatures entering and leaving the economizers, supplying a continuous record of the efficiency with which the heat reclamation is consummated.

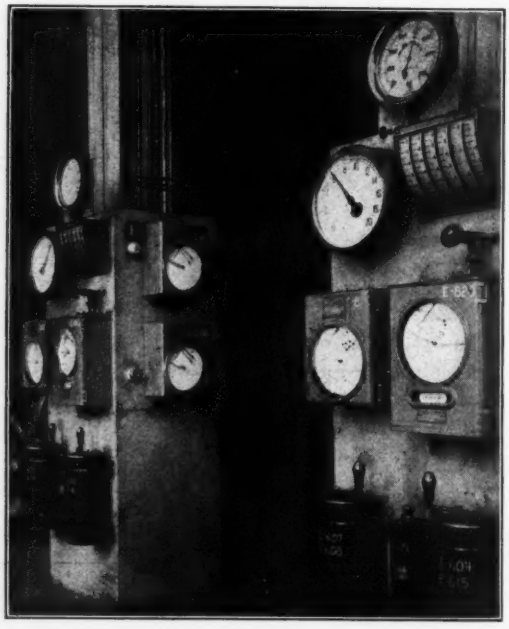
The indicating instruments mounted on the front of the panels, to the left, are meters which show the turbine (power) load and the digester load, while the multi-pointer gauges to the right indicate other factors of importance in boiler operation. The large steam gauges mounted on top of the panels indicate, of course, the boiler pressures.

Mounted below the multi-pointer gauges are so-called boiler meters which indicate, record and integrate the flow of steam from the boilers and record the air flow supplied for combustion. These latter instruments supply the information by which the necessary adjustments in fuel and air are made by the controllers at the base of the panels.

Taken in their entirety, these instrument panels furnish all the information required for the most economical and efficient operation of the power plant. Records of critical pressures and temperatures are in plain view, attainments in operating efficiency in sight and means provided for effecting prompt adjustments to meet any variations in conditions and requirements which may develop.

Benefits Derived from Use of Boiler Meters

The boiler meters furnish not only the essential information for suitably apportioning the load among the various boilers, but they bring to light many conditions which markedly effect the operation of the boilers. By calibrating the steam and air flow indicators so that the graphs they trace are superimposed, when conditions of draft and fuel supply are adjusted to the best advantage, and giving the readings in percentages of boiler rating, it is possible to tell whether the setting of the draft dampers is correct and to detect holes in the fires. If the steam flow graph lags below that of the air flow, it is an indication that there is an excess of air or else a deficiency in fuel supply. Similarly, if the steam flow graph appears above that of the air supply, it is a sign that there is a deficiency in air supply or an excess of fuel. The temperature pointer also furnishes valuable information, for if the air supply is correctly adjusted for the rate of steam generation and the gas temperature is excessive, it is an indication that either the baffle walls of the boilers are not tight or that the boilers are dirty and need cleaning.



Courtesy: Bailey Meter Co.

FIG. 2.
Boiler panels with complement of instruments at the Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis.

Courtesy: Bailey Meter Co.

FIG. 3.
Boiler Meter Recording Instrument.

At the plants of the Great Northern Paper Company, Millinocket, Me., where such boiler meters have been in use, some since as far back as 1920, marked improvements in average plant efficiencies have been quite apparent, much of it traceable to the information furnished by the boiler meters. The amount of coal consumed per ton of paper produced has been so materially cut and the decrease in amount of ashes produced so marked that it is estimated that an actual net annual saving in fuel of 4,249 tons has been effected. In view of the fact that the investment entailed for the instruments per boiler amounted to only about $700.00, the net annual monetary saving has been many times as great as the total fixed and operating charges on the meters.

Instrument Application in Mill Service

When it comes to instrument applications in mill services proper, even though these be limited strictly to those of simply indicating and recording character, they are so very numerous that no attempt can be made to mention more than a few which have proved most essential for efficient mill operation. The instruments are advisedly employed in connection with the operation of

Many mills are taking advantage of the current depression in business to overhaul their equipment and replace worn and inefficient parts. They consider it wiser to do this voluntarily now than to be forced to do it later—when business is booming again.

Remember that forced shut downs always come at the most inconvenient times and that a stitch in time saves nine.

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beaters, digesters, paper machines, etc., and for the measurement of all kinds of conditions pertaining to essential supplies. Space will not permit of any detailed description of the individual devices, but this is hardly necessary, particularly as little will be presented in regards to controls and regulators or to the important part played by instruments in automatic regulation of production processes, subjects which will be discussed more fully in these columns at some later date. A collection of brief explanatory notes, however, will give some indication of the extent and of the reasons for the very wide range of truly profitable instrument applications in mill services.

The use of temperature recording devices in connection with beater operation, for instance, is very desirable. They indicate the intensity of beating and the duration of each beating cycle. The rate of temperature rise shows whether the beater roll has been let down too suddenly and whether by any mischance the cycle has been interrupted.

The temperature of grinding also exerts considerable influence upon the character of the paper produced and recording thermometers are used quite extensively on pocket and magazine grinders. Cold grinding is very apt to produce "bundles" instead of single fibres, while hot grinding wears the stones excessively and produces an objectionable "flour" pulp. The temperature chart also enables the operator to pay closer attention to the stone temperature and to ascertain promptly when the stone requires redressing. Recording thermometers are used in preference to indicating instruments for this service as it is the gradual increase in stone temperature over a period of hours which is the destructive influence.

The ground wood tank should be provided with a recording thermometer as well, for the temperature of the ground wood is an indication of the quality of the pulp produced. If any appreciable variation in temperature is shown, it is usually evidence that something quite serious has been happening to some one or another of the grinders.

Temperature recorders should also be used on sulphite digesters to register the temperature of the sulphite liquor and in addition either an indicating or recording pressure gauge to show the pressure in the apparatus, for the proper operation of the digesters is one of the most essential steps leading to the production of the finished sheet. Even small differences in temperature may make a very noticeable difference in the quality of the paper produced.

In the preparation of the digester cooking acid, a number of temperature recording instruments are highly necessary, since several critical temperatures are involved. Also, such instruments

Courtesy: Cambridge Instrument Co., Inc.

FIG. 4.

Taking drier temperatures with portable surface pyrometer to locate overheated or water-logged rolls.

Courtesy: Thwing Instrument Co.

FIG. 5.

Indicator instrument for registering thermocouple determination of drier roll surface temperatures—wire leads connect with thermocouple unit.

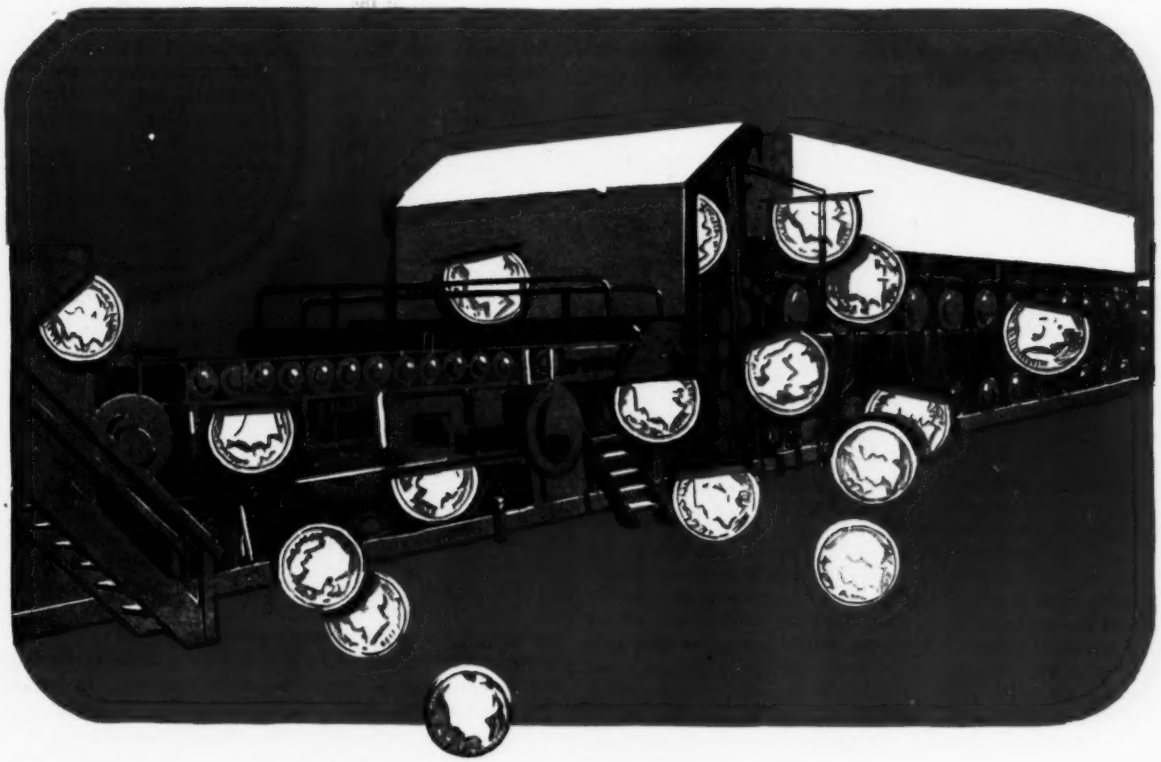
can well be used for a number of related and unrelated operations. For recording temperatures in digester blow-pits, for instance, to check the cycle of digester operation and give an indication of the character of the pulp delivered by the digester. A record of the temperature of the stock leaving the regulator box or in the wire pits is valuable as an indication of Jordan and beater operations. The storage of bleach powder should also be safeguarded by recording temperature instruments, for high temperatures are very apt to be dangerous.

Where pulp is bleached, the temperature at which the bleach is mixed and used greatly influences the time of bleaching by an acceleration or deceleration of the chemical action. Pulp cannot be uniformly bleached unless the rate of bleaching is kept constant, no matter how carefully the duration of the bleach may be controlled. Consequently, the information afforded by a recording thermometer may effect quite substantial savings both in the character of the pulp treated and in the amount of bleaching used.

On the paper machine itself, the use of suction boxes has proved highly desirable, for the extraction of the water from the sheet as the wire passes over the suction boxes is dependent wholly upon the maintenance of proper vacuum conditions. Satisfactory operation is only possible, as a rule, when suitable indicating instruments show the operators exactly what these conditions are. To secure an even moisture content in the finished sheet, in fact, it is essential that the vacuum be steady and of constant value on the suction box, couch roll and suction press roll, hence the desirability of employing vacuum gauges of the recording variety. The graphs traced serve as an indication of sheet formation and aid in locating the cause of any unsteady machine operation.

The use of temperature controllers to maintain suitable temperatures on the dryers is now, of course, a standard procedure in many of the more progressive mills and as in many dryers the moisture in the sheet is controlled by the drum temperature, the registering of this temperature upon a recording temperature instrument chart provides a valuable check on the operation of the regulator. Recording thermometers can also be very properly used to record the temperatures throughout the dryer rolls, for any temperatures important enough to be subject to sensitive control should be well worth recording. The data collected and compiled proves valuable in checking the effectiveness of the drying system and in computing the efficiency of the paper machines.

Many other profitable and advisable applications of these pressure and temperature instruments to specific services in pulp and paper mills could be cited, for there is scarcely a process entailed in paper making which does not afford numerous opportunities of employing such instruments as effective safeguards against wastes



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Watertown, N.Y.

large and small. The cost of the instruments and of their operation is invariably liquidated within a very few months by the improvement in plant efficiency and the circumvention of shutdowns and interruptions to productive activity.

Portable Surface Pyrometers

Most of these instruments are of what may be termed the permanently located variety. That is, when installed they become virtual accessories to the equipment they serve. However, there are also a number of portable temperature instruments which prove most desirable adjuncts to equipment not provided with individual thermometers or other heat indicating devices. Such instruments are used frequently for noting and checking temperatures of paper dryer rolls, etc., for instance.

One popular variety of these convenient portable instruments consists of a very sensitive, thin, flat strip thermocouple unit stretched across the ends of an inverted spring bow and connected by flexible leads to a variety of millivoltmeter calibrated to read in thermal units. The spring bow with the thermocouple is attached by a swivel connection to one end of a tube or shaft which serves for a handle for the instrument and upon which the indicating instrument is mounted.

In use, the thermocouple element is simply held against the roll or other surface whose temperature is to be noted and within a few seconds a steady reading of the surface temperature is obtained on the meter scale. The flexibility of the thermocouple and spring bow construction is such that it insures intimate contact between the thermocouple unit and the heated surface, making the temperature readings obtained very dependable. With this instrument, overheated or water-logged rolls are quickly and definitely located and the temperatures of the various dryer rolls readily regulated so as to secure the progressive drying of paper essential for uniform quality production and efficient dryer operation.

In another variety, the indicating instrument, instead of being mounted on the handle of the instrument, is in the form of a meter box which can be placed upon any convenient surface while the thermocouple element is held against the heated surface and a temperature reading obtained, wire conductors connecting the thermocouple with the registering meter. A thermometer mounted on the instrument case (meter box) is provided so that a zero setting can be adjusted to conform with the prevailing room temperature. This refinement insures a very accurate reading being obtained of the surface temperature of the heated roll.

The use of such surface pyrometers at the Kalamazoo Vegetable Parchment Company, Kalamazoo, Mich., to mention a specific instance where periodic testing of dryer roll temperatures with these instruments is practiced, has resulted in securing much more uniform drying through the detection of any poorly functioning dryers, enabling the plant to establish an excellent temperature gradient on the dryer sections for efficient control of the process and in securing maximum production commensurate with proper moisture and quality standards for the finished paper. Prior to instigating periodic testing of roll temperatures with a surface pyrometer, the temperature of the dryers had been regulated more or less by guess so that when the first temperature readings were taken it was found that several dryers were not properly heated and that both production and quality of output were suffering.

At the present time, check temperature readings are taken regularly on 125 dryer rolls of four machines and since the proper regulation of dryer temperatures has been effected, it is found that the testing of the dryer roll temperatures every five days suffices for maintaining a satisfactory temperature gradient. The testing has thus become a regular routine operation on definite schedule and the coverage of all dryers entails the services of two men for 4 hours. The entire expense involved, including all fixed and operating charges, amounts to less than $100.00 a year. The annual savings effected, on the other hand, have been many times this quite nominal expenditure, for the regular temperature checks have been largely instrumental in avoiding both the insufficient drying of paper, which would necessitate machine speed retardation and production losses, and excessive drying, which would be detrimental to paper quality and would impose undue losses in moisture and weight of paper.

Papermakers Brotherhod Activities

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., April 5, 1930.—Announcement has just been made by officials of the International Brotherhood of Papermakers that there will be no conferences held this spring between representatives and the paper manufacturers of this country and Canada in connection with the signing of new wage and working agreements. President Matthew Burns declared that this decision was arrived at because of the fact that in many agreements there exists a continuation clause which serves to continue the present wage and working schedules unless either side sees fit to seek a reopening and readjustment. It is also more or less implied in other agreements where there is no continuation clause, according to Mr. Burns. It was also announced that here and there certain discussions between the union and manufacturers on some particular job would be staged but that representatives of local unions would meet with representatives of the manufacturers in such instances and straighten matters out without any reopening generally of the agreements under which both parties work.

Officials of the union also said that the existing agreement with the St. Regis Paper Company would be continued. In some cases, however, a few revisions will be sought on particular jobs in certain mills and these changes will be presented by the local unions in the respective mill towns. It is possible that President Burns will attend a number of these meetings which will take place in the mill towns rather than in the New York offices of the company.

A large vote is being recorded these days in paper mill towns throughout this country and Canada against the two propositions being submitted at a referendum. The voting started on March 23 and will conclude April 6. One proposition would give the president more power while the other would combine the offices of president and secretary of the union. The canvassing board will meet in this city on April 14 for the purpose of counting and tabulating the vote. The board consists of William Adamson, M. V. McLane and William Bilson.

Cost and Technical Men Meet

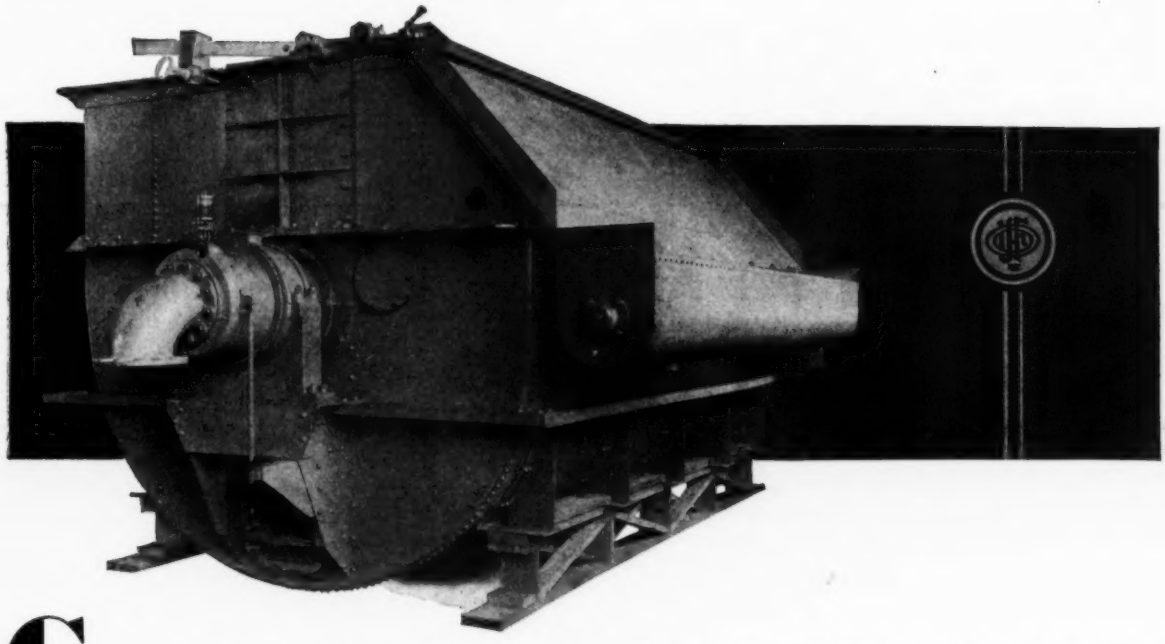
[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., April 14, 1930.—The Cost and Technical Association of the Paper Industry, Kalamazoo Valley Division, is making a study of costs and technical work throughout the industry. Deciding to work systematically, the start is made in the rag room and paper sorting room and thus pass through the various departments of the mill.

The initial program under this plan was held Wednesday evening at the Columbia hotel. Following dinner, Harold Dewey of the Lee Paper Company spoke on "Beater Costs." Elbert Milham, of the Bryant Paper Company, spoke on "Technical Control in the Beater Room." The program was arranged by Glenn Ingling, of the Kalamazoo Paper Company and vice president of the Cost Association.

Shartle Bros. Get Order For Twenty Jordans

MIDDLETOWN, Ohio, April 14, 1930.—Shartle Brothers have just received an order for twenty jordans, which, it is said, is the largest single order of jordans ever given in the industry. Shartle Brothers report that they are exceptionally busy and have in fact done more business the first four months of this year than they did in eight months of last year.



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FOREIGN PAPER TRADE

Exports of paper and paper products from the United States during February declined 31 per cent compared with January, which was to be expected inasmuch as February is a short month, but they were at the same time 20 per cent under those of the corresponding month in 1929, according to the Paper Division of the Department of Commerce. The majority of items on the schedule shared in this decrease, with the heaviest declines falling in surface-coated, printing, and writing papers, and boards. Exports of over-issue newspapers, on the other hand, have again picked up, the February shipments exceeding those of January by 35 per cent and of the corresponding month last year by 42 per cent.

Exports of wrapping paper, while below the January level, were slightly in excess of those made during February, 1929. A much greater increase was registered in fiber insulating board and lath, shipments for February having more than quadrupled compared with last year. This item is of increasing importance among paper and board exports, in February ranking second from the standpoint of value.

Blotting paper, cover paper, towels and napkins, envelopes, and cash register paper comprised the remaining items in which increases were registered during February. Total exports for the month were valued at $2,617,833 as compared with $3,434,249 in January and $3,215,478 in February, 1929.

In addition to the above, $254,338 worth of paper base stocks were shipped from the United States during February, comprising 1,766 cords of pulpwood, 2,016 tons of sulphite, 335 tons of soda pulp, 235 tons of other classes of wood pulp, and 2,380 tons of rags and other stock. Similar shipments during January were valued at $536,520 and during February, 1929, at $492,256.

February imports of paper and paper products were also under those of the preceding month, or of the corresponding month in 1929. This was due chiefly to the reduction in receipts of standard news print, imports of the latter during the month of February totaling only 137,614 tons compared with 177,339 tons in January and 147,607 tons during February, 1929. A decrease in the volume of shipments occurred principally in consignments coming in from Canada and Newfoundland. Imports from Sweden increased by 40 per cent and from Germany by 75 per cent, while those from Finland more than doubled. Among other classes, in which increases were registered, may be mentioned vegetable parchment and grease proof papers, kraft wrappings, writings, surface-coated paper, tissues, and wall papers. Imports of boards of all kinds were under those of a year ago, as were receipts of miscellaneous wrapping papers, cigarette paper, and printing papers, exclusive of news print. The total receipts for the month were valued at $10,367,617, a decrease of $2,981,151 compared with the preceding month and of $1,182,880 compared with the corresponding month in 1929. Of the February total, $8,925,175 represented standard news print, and $1,442,442 the other classes of paper and boards.

In contrast to paper and paper products, imports of paper base stocks into the United States during February were slightly above the January figure and show a substantial increase compared with February of last year. Outstanding gains were registered in receipts of nearly all classes of wood pulp, ground wood and kraft pulp have increased by 175 per cent and 110 per cent respectively, while imports of unbleached sulphite show an increase of 40 per cent and bleached sulphite of 30 per cent compared with the corresponding month last year.

Of the other stocks, pulpwood receipts increased by 12 per cent, rags decreased by the same figure, and other classes of stock, comprising mostly old rope, waste, bagging, waste paper, etc., increased by 30 per cent. Of the total base stocks valued at $11,965,121 imported during February, $1,363,188 represented 139,405 cords of pulpwood, $9,759,353, 34,915 tons of ground wood, 50,100 tons of kraft pulp, and 108,180 tons of sulphite pulps, and 1,365 tons of other classes of pulp, while $842,580 represented rags and other waste. February imports exceeded those of the preceding month by $358,439 and of February, 1929, by $3,343,194.

A MOVE TO INCREASE PRICES

As the first move towards a possible increase in the price of news print many petitions have been circulated throughout Canada by the International Brotherhood of Papermakers. Signers for these petitions are now being sought in the important mills towns in the Provinces of Quebec and Ontario and they will later be filed with members of Parliament requesting the calling of a hearing in Canada in order that the government of that country may have most accurate information upon which to act in connection with the papermaking industry. This action by the International body is in accordance with a resolution adopted at the recent Montreal conference which was in accordance with the wishes of all unions connected with the industry.

The resolution emphasizes the fact that for a number of years past many concessions of water power and timber grants have been made by several of the Canadian provinces to corporations planning to build paper and pulp mills in the utilization of water power and timber limits. It then goes on to say that the too rapid development of the paper industry on these grants has resulted in an over-production of paper which has brought about a price war between manufacturers in which some are placing paper on the market at prices destructive to the industry besides actuating them to operate full time, including Sundays, while other mills can

secure orders for paper sufficient for only part time operations or in some cases not at all.

The petition also states that existing conditions are causing considerable suffering and hardship in many paper mill towns in Canada and that such a condition is clearly due to selfishness. Further on it goes on to say that it is the belief that the present price of paper is entirely inadequate to furnish a reasonable return for investors and at the same time provide a standard of living for the workers. The petition closes by asking members of the Canadian government to call a fact finding hearing in the near future.

Union Bag & Paper To Meet in New York

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., April 14, 1930.—At the annual meeting of stockholders of the Union Bag and Paper Corporation held last week it was voted to meet in New York City later in the month to vote on a proposal to reduce the amount of issued capital stock from $14,980,936 to $4,494,280. The decrease in capital is expected to assist the company in overcoming to some extent the $750,088 operating loss sustained last year. At the meeting held yesterday it was voted to reduce the number of directors from fifteen to nine in accordance with the company's plan to cut down expenses wherever possible in administration, production and selling. A number of changes are also looked for in the personnel of the executive staff. Charles S. Sanders has already resigned as secretary and will be succeeded by S. H. Brown, formerly assistant secretary.

Officials of the company reported the net operating loss for 1929 was $750,088 as compared with a loss of $112,105 in 1928. Book losses resulting from non-operating properties and the write-off of bond discount and expenses applying to bonds retired in 1926 totalled $2,124,200, creating a deficit of $2,652,427. "The company has been suffering from acute conditions which have affected generally the paper and bag industries," according to C. R. McMillan, president of the company. "The producing capacity of kraft paper is about thirty-five per cent greater than normal consumption, competition has naturally been great and the paper and bag markets have been and are badly demoralized," he said.

It was announced that the effect on the company's income because of this industrial situation resulted in the company receiving approximately $1,500,000 in the years of 1928 and 1929 less on substantially the same volume of sales than in previous years and during this period the firm obtained something above the going market price for its products. The company also claims that in recent years there has been almost a complete change from sulphite paper to kraft paper in making paper bags and to meet this situation the firm has been obliged to adapt its equipment to the making of kraft paper products while at the same time it has made sharp reductions in administrative, producing and selling costs. It has also improved its financial position and reduced its fixed charges by closing down or selling properties which were not necessary to its business and were incapable of producing revenue.

Customs Court Upholds Haas Bros.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 16, 1930.—The United States Court of Customs and Patent Appeals has upheld the contention of Hass Brothers that certain importations which were assessed at 30 per cent as wrapping paper should have been dutiable at 10 per cent as pulpboard. The decision was rendered by Associate Judge Hatfield.

The merchandise was originally assessed at 30 per cent but the importer contended that it should have been 10 per cent as pulp board instead of wrapping paper. The Customs Court upheld the importer's contention and the Court of Appeals has sustained the decision of the lower court.

Pulp and Paper Production for February

According to identical mill reports to the American Paper and Pulp Association from members and cooperating organizations, paper production in February showed a decrease of 8 per cent under January 1930, and an increase of 1 per cent over February 1929. Pulp production in February registered a decrease of 5 per cent under January 1930, and an increase of 6 per cent over February 1929.

The February production of paperboard, wrapping, bag and building papers registered a decrease under February 1929 output. Uncoated book paper production showed an increase of 11 per cent, newsprint 8 per cent, writing 4 per cent, and tissue paper 3 per cent. Production of wrapping paper, bag paper, and paperboard decreased in February 1930 as compared with February 1929. Shipments in February 1930, of uncoated book paper and hanging paper, increased over February 1929 while newsprint, paperboard, wrapping, bag, writing, tissue, and building papers decreased.

Paperboard, wrapping and building papers registered decreases in inventory at the end of February 1930 as compared with the end of January 1930. As compared with February 1929 inventory, newsprint, wrapping, bag, and tissue papers showed decreases. The total stocks on hand for all grades was 2 per cent below January 1930, and 1 per cent below that of February 1929.

Identical pulp mill reports for February 1930 indicated that during February 1930, 11 per cent more Mitscherlich sulphite pulp, 9 per cent more kraft pulp and 8 per cent more bleached sulphite pulp was consumed by reporting mills than in February 1929. The total shipments to outside markets of all grades of pulp in February 1930 were 1 per cent above the total for February 1929.

Bleached sulphite and easy bleaching sulphite pulps were the only grades that showed decreases in inventory at the end of February as compared with the end of January 1930. As compared with February 1929, groundwood, news grade sulphite, mitscherlich sulphite and soda pulps registered decreases in inventory.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF FEBRUARY, 1930

Grade	Production tons	Shipments tons	Stocks on hand end of month tons
News print	112,394	110,714	20,552
Book (uncoated)	86,277	85,524	45,974
Paperboard	203,499	205,122	62,665
Wrapping	44,019	44,898	46,212
Bag	14,132	13,325	7,008
Writing	31,336	30,686	44,308
Tissue	12,105	12,060	8,551
Hanging	5,339	5,193	3,543
Felts and building	4,895	5,325	3,832
Other grades	24,241	29,171	14,009
Total—All grades	538,237	542,018	256,654

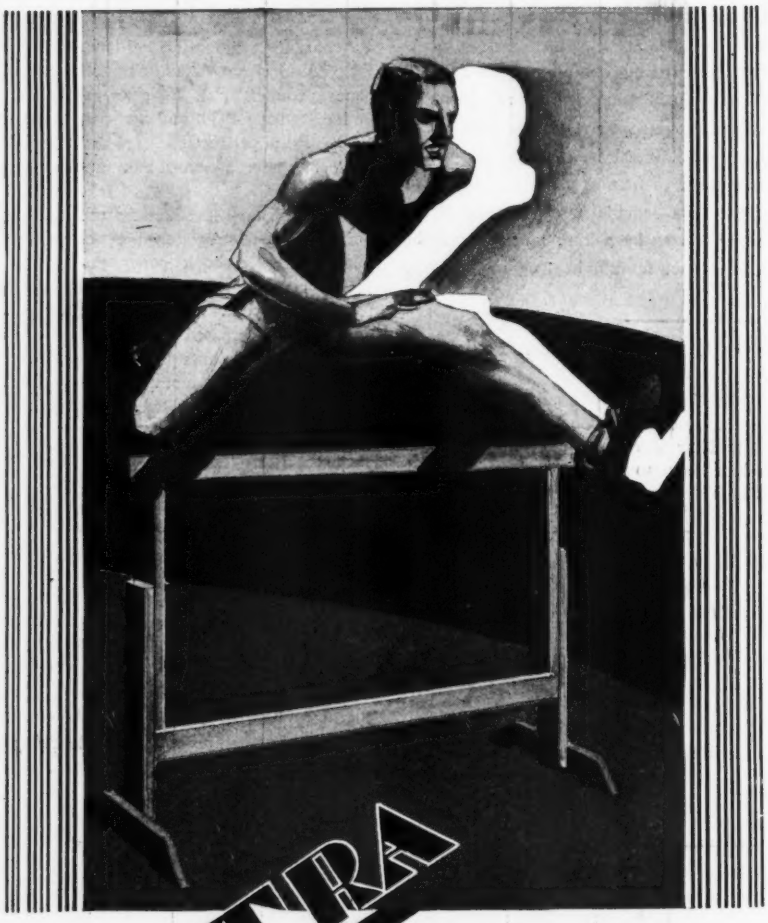
REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF FEBRUARY, 1930

Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	88,984	82,579	2,824	46,290
Sulphite news grade	37,335	33,357	3,825	6,400
Sulphite bleached	25,557	23,523	2,521	2,984
Sulphite easy bleaching	3,042	2,712	373	1,057
Sulphite Mitscherlich	7,260	6,035	1,100	968
Kraft pulp	30,113	26,067	3,405	7,019
Soda pulp	22,732	14,936	7,624	3,624
Pulp—Other grades	66	.....	41	28
Total—All grades	215,089	189,209	21,713	68,370

International Pulp Co. To Increase Shares

[FROM OUR REGULAR CORRESPONDENT]

GOUVERNEUR, N. Y., April 14, 1930.—The International Pulp Company has petitioned the Public Service Commission for permission to purchase an additional 1,000 shares of the common stock of the Oswegatchie Light and Power Company which the latter firm is also seeking authority to issue. The pulp company states that it holds all stock of the Oswegatchie concern which it acquired prior to July 1, 1907.



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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Relationship of Ink Viscosity to Penetration in News Print

By I. H. Andrews [1]

Pursuing our experiments on the relationship of ink viscosity to penetration we recently made an examination of printed sheets of news print for oil stain, the so called ink penetration. In these experiments inks of different viscosities, but of the same pigment content were used. Ink films of varying weights were put on standard news print with the same impression and at the same temperature. It was hoped that it would be possible to find out by these means what relationship existed between quantity and viscosity of ink and the so-called ink penetration.

It was observed that in every instance the oil of the ink eventually spread over the fibers directly under the print to the opposite side. It showed as an oil stain—apparently when the film had attained a certain degree of thickness.

It was soon noticed that oil stain is accompanied by what is known as show-through. By show-through is meant the contrast between the black print and the unprinted portion, when viewed from the opposite side of the paper. This is due to the greater absorption of light by the black pigment and is apparent both by reflected and transmitted light. Here the show-through is the result of contrast in reflected light. During a period of about 3 to 5 days, there will be the combined effect of show-through and ink penetration; after this time however, the effect of the show-through is hardly apparent and the oil stain will be found to predominate. It would seem that since ink penetration and show-through go hand-in-hand, the relation of ink viscosity to both these factors should be determined.

Coming back to oil stain—oil from a minimum of ink, necessary to give an even black print, might take as long as three days to show up as ink penetration—and then only faintly. The more ink used the sooner will penetration appear. A 50 per cent increase in ink and the penetration will show up badly in two or three hours.

To gauge the degree of ink penetration is a difficult task owing to the presence of show-through; consequently it is not easy to determine the effect of viscosity on penetration. Considerable variation was observed in the results but it seemed that the length of time for the penetration to reach the same degree of stain was about in direct ratio to the viscosity values. Generally, during the first four days the stain from the ink of lower viscosity was worse than that from an ink of higher viscosity for equal volumes of ink. The printed news was allowed to stand for ten days, at the end of which time the stains from equal volumes of inks of various viscosities were found to be alike.

With different depths of impression the rate of penetration for equal volumes of the same ink appeared to be alike. On the other hand the degree of blackness became greater as the impression increased. This suggests that less ink would be necessary, that is, less ink penetration to attain the same degree of blackness.

Obviously in light of this recent work our assumptions on the relation of the spreading power of oil to ink viscosity and the effect of temperature in a previous paper must needs be changed.

It is realized that the ink viscosity may not be in direct ratio to the viscosity of the oil from which it is made up and whose viscosity should be known. Since the oil cannot be separated from the made up ink, this cannot be obtained.

By cooperation with the ink manufacturers, by continued experiment on a subject in which there is much work still to be done and by the use of more accurate methods of duplicating ink films, it is hoped that a better conception of viscosity both in respect to show-through and ink penetration will be found. Other characteristics of the ink vehicle, not yet apparent, which have a bearing on this question, may possibly be uncovered also.

[1] Member TAPPI, Chief chemist, Powell River Co., Ltd., Powell River, B. C.

Paper Mill Employment Increases

There was a slight increase in both employment and payrolls in the pulp and paper industry but a decrease in both in the paper box industry in February compared with January according to figures just made public by the Bureau of Labor Statistics, Department of Labor.

Two hundred paper and pulp mills reported their January employment at 58,946 increasing in February to 59,023 an increase of 0.1 per cent. The payrolls in these mills also increased from $1,578,267 in January to $1,624,599 in February an increase of 2.9 per cent.

Reports from 191 paper box factories gave their January employment at 19,621 decreasing in February to 19,204 a decrease of 2.1 per cent. The payrolls in these establishments also decreased from $440,562 in January to $435,342 in February a decrease of 1.2 per cent.

John W. Smith Drier Patent Upheld

The District Court of the United States, Western District of New York, on December 12 gave a judgment in favor of John W. Smith against the Farnham Manufacturing Company. This action upholds patent of John W. Smith on his paper machine steam drier joint and grants him damages against the Farnham Manufacturing Company for infringement on his patent and also grants him permanent injunction against them for further infringement.

The Preparation of Fiber Test Sheets*

By Merle B. Shaw[1], George W. Bicking[2] and Leo W. Snyder[3]

I. Introduction

The development of a laboratory method suitable for evaluating the quality of pulp so that its paper-making properties may be determined has been in progress in a number of paper research laboratories for some time.[4] The committee on Physical Standards for Pulp of the Technical Association of the Pulp and Paper Industry, as well as other investigators, has done considerable work on the standardization of such a test with promising results. Numerous methods have been proposed but as yet none has proved entirely satisfactory or has been adopted as a standard. The following description of the Bureau of Standards procedure for making fiber test sheets is given to add to the fund of information on this subject.

In the work of the paper laboratory of the bureau small sheets of fibers, uniform in quality—weight, formation, etc.—and free from the personal factor present in sheets made by the hand-dipping process,[5] have been found essential in studying certain paper problems. In the investigation of new materials it is frequently desired to study the behavior of the fibers under paper-manufacturing conditions without making paper-machine runs, which are costly and require considerable quantities of the fibrous materials. The need for sheets uniform in weight and formation, and sufficient in size for test purposes led to the construction of a sheet machine and the development of a method for preparing fiber sheets which have given very satisfactory results in service. The machine as originally designed has been previously described.[6] Improvements have since been effected in it and other parts of the sheet-making equipment, however, and the paper-making processes subsequent to the forming of the sheet have been standardized. The present publication gives a complete description of the equipment and procedure now used at the bureau in the manufacture of laboratory sheets and, therefore, supersedes the earlier report. As such parts of the previously published article as are now applicable are repeated here, a résumé of the earlier work is not included.

Determining the paper-making strength of fibers includes several different operations—sheet forming, pressing, drying, and testing—and all need to be standardized in order to obtain a method that is reliable as a whole. The pulp used in making fiber sheets is in most cases taken from stock prepared in the semi-commercial beaters of the mill equipment. The sheet-making method adopted and described relates to the forming, couching, pressing and drying of the sheet. The physical characteristics of the finished papers are determined according to the official paper-testing methods of the Technical Association of the Pulp and Paper Industry.[7]

Measurements of the physical properties show that the individual sheets made from a given sample of stock are in good agreement, and that different operators obtain comparable results. The data warrant the view that the method is practical, and is useful for pulp quality measurements.

II. Description of Apparatus

1. Agitator

An agitator is used to separate the clots of fibers without beating action and to mix the pulp and water preparatory to forming the sheet. The agitator, Figure 1, consists of a vertical shaft having a 2-blade propeller fitted in the lower end, and is driven by a one-eighth horsepower motor at a speed of 1,750 revolutions per minute. It is mounted on a board free to move up and down in vertical guides on either side. A counterweight facilitates the movement and keeps the apparatus in the position desired. A stop watch used to indicate the duration of the mixing is started and stopped simultaneously with the motor by means of a lever bar tripped by the motor switch. The watch can also be operated by hand.

The mixing vessel has a capacity of 1½ gallons. A baffle plate, B, one inch in width, extending from top to bottom and fastened to the side wall directs the flow of the contents and thus prevents vortex motion during the agitation.

2. Sheet Machine

The sheet machine is a suction mold. It consists of three sec-

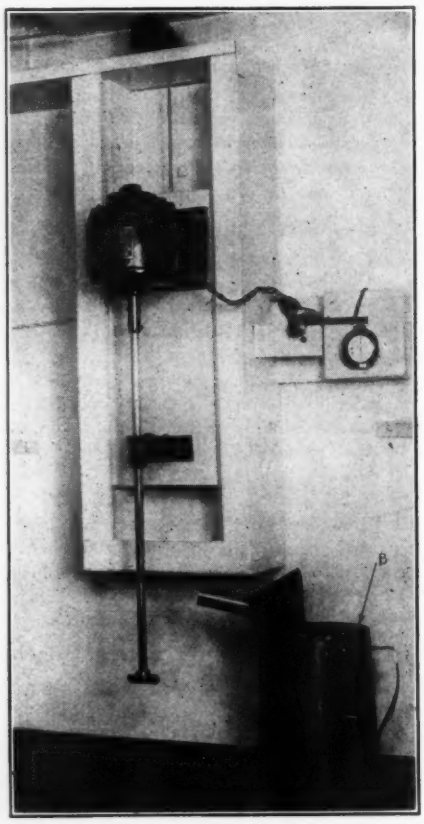

Fig. 1.
Agitator and mixing vessel

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* Presented at the annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 19, 1930.

[1] Member TAPPI, paper technologist, U. S. Bureau of Standards, Washington, D. C.

[2] Paper maker, U. S. Bureau of Standards, Washington, D. C.

[3] Asst. engineer, U. S. Bureau of Standards, Washington, D. C.

[4] "The Bibliography of Wood Pulp Strength Testing," by W. F. Moore; Paper Trade Journal, Vol. 89, No. 12, pp. 62-72, Sept. 19, 1929, gives very complete abstracts of many of the published articles on this work.

[5] In making sheets by the hand-dipping method, the diluted stock, contained in a vat, is thoroughly mixed and into it the hand mold is dipped. The deckle frame is filled and the mold is slowly raised, a lateral motion, or shake, being meanwhile imparted to it by the operator to assist in the felting of the fibers. The water drains back into the vat, thus changing the concentration of the remaining stock. Another sheet taken out at this stage would be of lighter weight. It is customary, therefore, to add to the vat before taking out another sheet stock equivalent to that removed by the preceding sheet. The possibility of error in the amount added, and the personal factor in the shaking of the forming sheet tend to produce non-uniformity in the distribution of the fibers and variation in the weight of the sheets.

[6] Method of Making Uniform Fiber Sheets for Test Purposes, by Merle B. Shaw and George W. Bicking, Paper Trade Journal, Vol. 79, No. 21, pp. 51-53 (Nov. 20, 1924). Also included in B. S. Tech. Paper No. 340, Caroa Fiber for Paper Making, pp. 326-332.

[7] Paper Testing Methods, published by the Technical Association of the Pulp and Paper Industry, 18 East Forty-first Street, New York, N. Y.

tions, two brass and one aluminum (fig. 2—A, B, and C, respectively).

Fitted into the casting of the top section, A, is a 10 by 12-inch sheet brass box (18 gauge brass), open at top and bottom and forming a deckle box.[8] On the under side of the casting a rubber gasket is cemented (with shellac) to effect a tight seal when the mold is assembled and the top is clamped down (fig. 3A). If the machine is to be used frequently and sufficient laboratory space is available it might be desirable to have the deckle box fastened to a hinged arm, so constructed that clamping is required at front only.

There is apparently difference in opinion as to the preferable size and shape of the deckle box of a sheet machine. Square, oblong, and circular boxes are used and the sheets made vary in size, but are usually somewhat smaller than those formed on the bureau's machine. With a 10 by 12-inch deckle area a trimmed sheet 8 by 10½ inches in size is obtained. From a sheet of this size test specimens may be obtained for each kind of test ordinarily made to evaluate the quality of paper. This size has an added advantage at the bureau in that it is the same as that of the official record sheets. Since no difficulty is encountered in making 10 by 12-inch sheets of uniform formation and weight these dimensions are believed to be the most satisfactory and economical.

In the mold casting, B, is a perforated brass plate, P, drilled with ½-inch holes at 5/8-inch centers. The plate is covered first by No. 10 brass wire cloth, soldered to it at the edges, and then by No. 80, stretched taut over the mold and held securely by a frame screwed to the casting. A mixture of litharge and glycerine poured on the edges of the mold make the joint tight and thus prevent leakage. The mold plate supporting the screens must be level if a uniform sheet is to be secured.

The lower casting, or mold support, C, has a water outlet fitted with a quick-opening gate valve. A steam ejector is placed in the discharge pipe below to accelerate the suction. Two vertical supports across the casting prevent sagging of the mold plate. The casting is made of aluminum but brass could be used satisfactorily if the additional weight is not objectionable. The two vertical supports are made of ⅛-inch aluminum plate. These were not included in the original design and are therefore screwed to the side walls, but might well be made a part of the base casting. A rubber tube fitted in a groove in the top of the casting makes a tight seal with the mold when the machine is in operation.

In most of the sheet making machines now in use the clearance between the wire on which the sheet is formed and the suction outlet is small. The rate of drainage for these machines is nearly always specified and is nearly always very slow. If much suction is applied during the forming of the sheets the fibers are drawn to the area over the suction opening and the sheet formed is therefore of uneven thickness and weight. If a baffle plate is placed above the suction opening the fibers are then drawn to the edges of the sheet, causing, as before, resultant inequalities in the substance of the sheet. These conditions are prevented and uniform fiber distribution is obtained with the bureau's sheet machine by increasing the height of the mold plate above the outlet valve and changing the form of the base casting. The casting, Fig. 2C, consists of a rectangular box perpendicular to the mold plate, a

[8] A deckle box is a frame laid upon a wire mold to confine the paper pulp to a definite area, thus limiting the size of the sheet.

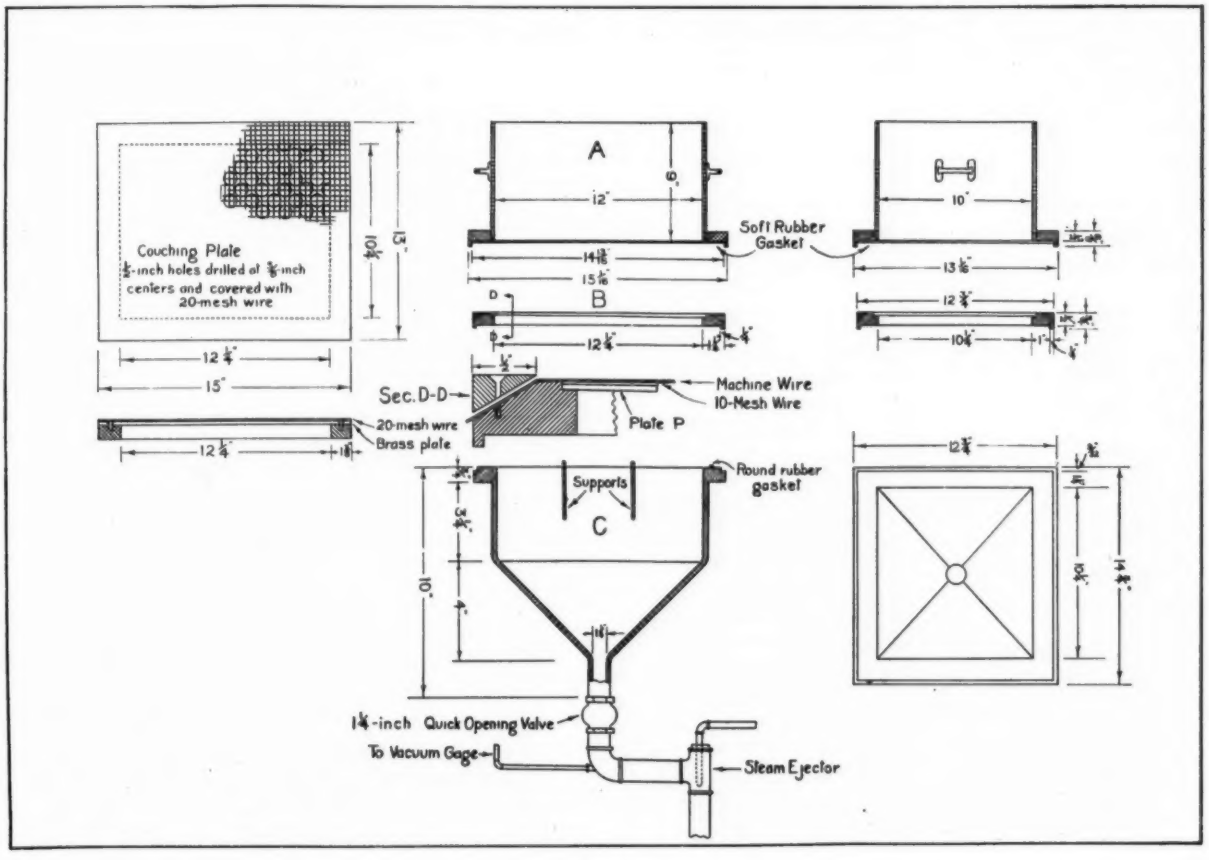


FIG. 2.

Working drawing of sheet machine and couching plate.

truncated pyramid, and a cylindrical section for pipe connections, the heights of which are 4 inches, 4 inches, and 2 inches, respectively.

3. Couching Plate and Felt

A perforated brass plate, Figure 2, is used in transferring, or "couching," the sheet from the mold for the subsequent pressing and drying operations. The plate, which is ⅛-inch thick and drilled with ½-inch holes at ⅝-inch centers, is similar to the mold plate and is mounted in a frame of the same size as the mold casting. A No. 20 wire screen is stretched over the plate and soldered to it at the edges. (The screen was not included at the time the photograph of Fig. 7A was taken but is now a part of the standard equipment.)

Hand sheets have generally been couched by placing an absorbent material, such as a blotter or felt, over the web of pulp, pressing it lightly against the molded sheet, and lifting it and the adhering sheet from the mold. This procedure requires extreme care in removing the sheet to prevent any undue stresses that might disturb the original position of the fibers, particularly in lightweight sheets, because of their tendency to tear and leave portions adhering to the screen. By use of the perforated plate the sheet with couching felt and plate superposed can be inverted, returned to the sheet machine, and transferred to the felt by suction. This modification simplifies the couching procedure considerably.

Blotters and felts are the couching materials generally used in removing hand sheets from the screen. Experimental data as to their comparative value were not available, however, and tests were therefore made to determine the number of times each could be used, ease with which they could be handled, and their comparative effect on the strength of the finished fiber sheets. The blotting paper used had the following properties:[9]

Weight—25 by 40 inches, 500 sheets	266.0	pounds
19 by 24 inches, 500 sheets	121.3	pounds
Thickness	0.028	inch
Bursting strength	34.4	points
Fiber composition—rag	50.0	per cent
chemical wood	50.0	per cent
Absorption (1 cc. distilled water)	41.0	seconds

The felt was similar in quality to paper-machine felts, smooth, napless, and of a weave that permitted ready passage of air through it when suction was applied. Other physical properties were:[10]

Weight per square yard	19.2	ounces
Thread count per inch, warp	70	
filling	40	
Thickness	0.040	inch

In preparing the stock for the hand sheets the pulp was beaten only until it was free from clumps of fibers, no attempt being made to develop its maximum strength. The standard procedure, described hereinafter (III), was used in the sheet-making operations except in the couching with the blotters. Couching by suction was tried but the close texture of the blotting paper rendered it too impermeable to air and prevented effective action of the suction on the web of pulp. The couching plate could not be used, therefore, and the sheets had to be removed by hand. The sheet on the mold was covered with a blotter and over it a 4½-inch brass pipe was rolled. The sheet and blotter were then lifted together from the plate, and laid sheet up on another blotter placed on a metal plate. Two more blotters and another metal plate were laid on the sheet and the unit was ready for pressing.

A series of pressures ranging from 30 to 240 pounds per square inch, increasing by 30-pound steps, was used in the pressing. Two sets of five sheets each—one couched with blotters, the other with felts—were submitted to each pressure for three minutes.

[9] The tests were made according to the official methods of the Technical Association of the Pulp and Paper Industry.

[10] Methods of measurement are described in U. S. Government Master Specification No. 345a, "General Specification for Textile Materials (Methods of Physical and Chemical Tests)."

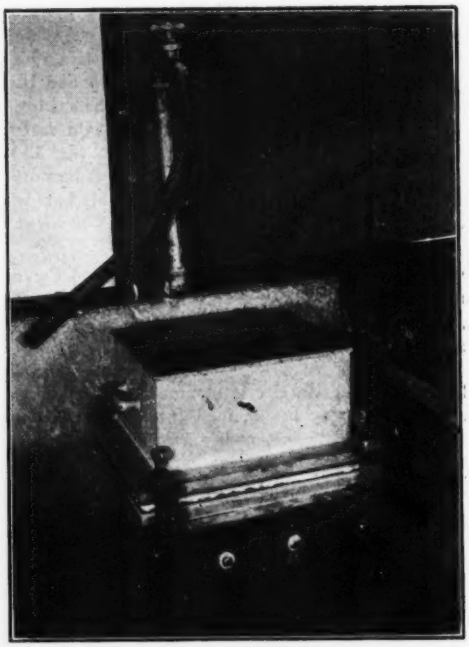


Fig. 3A.
Sheet machine assembled

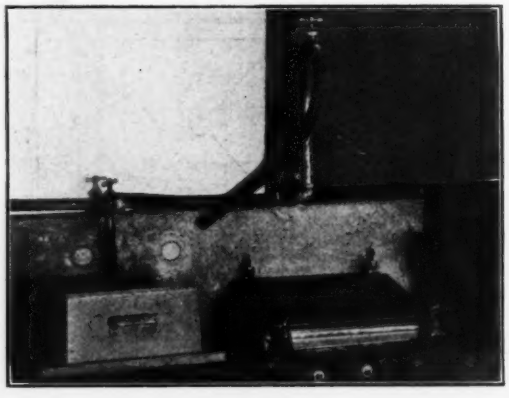


Fig. 3B.
Sheet machine with deckle box removed.

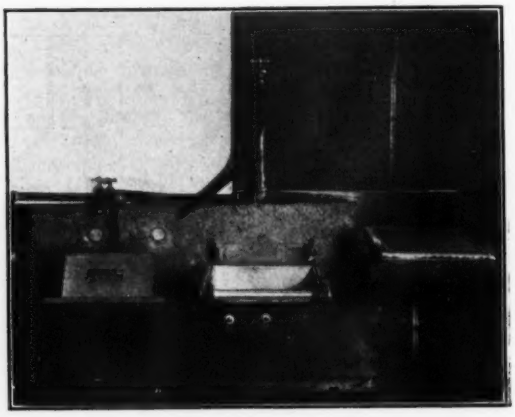


Fig. 3C.
Sheet machine with parts separated.

TABLE 1

COMPARATIVE STRENGTH OF HAND SHEETS PRESSED WITH BLOTTERS AND FELTS

Material between which sheets were pressed	Pressure, pounds/sq. in.	Physical tests on finished hand sheets: Weight (25x40 in.—500 sheets), pounds	Bursting strength, points	Folding endurance: Long direction,[1] double folds	Folding endurance: Short direction,[1] double folds	Tensile strength (strip 15 by 100 mm.): Long direction,[1] kg.	Tensile strength (strip 15 by 100 mm.): Short direction,[1] kg.	Tearing strength: Long direction,[1] g.	Tearing strength: Short direction,[1] g.
Blotters	30	65.6	28.4	53	40	3.2	3.3	62.8	63.6
Felts	30	64.5	27.0	53	55	3.1	3.3	66.0	64.4
Blotters	60	64.4	31.3	85	76	3.4	3.3	65.6	63.6
Felts	60	63.2	31.0	67	70	3.4	3.4	65.2	66.8
Blotters	90	64.8	32.5	58	55	3.8	4.2	64.8	64.0
Felts	90	61.5	32.0	60	58	3.4	4.0	65.2	66.4
Blotters	120	67.4	33.1	142	92	4.2	4.2	62.0	66.0
Felts	120	66.2	33.5	75	87	4.2	4.1	67.2	65.2
Blotters	150	69.0	32.3	98	86	4.3	4.3	62.0	66.0
Felts	150	70.1	32.0	88	91	4.2	4.3	65.2	64.8
Blotters	180	70.1	32.8	88	75	4.5	4.6	70.4	74.0
Felts	180	69.3	34.0	89	93	4.2	4.1	64.8	67.2
Blotters	210	68.2	34.8	102	95	4.8	4.8	73.6	74.4
Felts	210	69.9	34.0	87	85	4.8	4.5	68.8	69.2
Blotters	240	70.8	35.3	163	132	5.1	4.9	78.0	77.6
Felts	240	65.1	35.0	128	135	4.6	4.5	69.2	70.0

[1] Test strip cut from the hand sheet in the direction indicated.

Other sheets were weighed after being pressed and then dried to constant weight to determine the amount of moisture in the pressed sheets. The results are recorded graphically in Figure 4. As will be noted less water was left in the sheets couched and pressed with blotters. In no case, however, was the amount present in excess of that in paper going to the dryers (leaving the last press) of a commercial paper machine. The amount of moisture removed from the hand sheets will of course depend not only on the type of couching material used but also on the number of thicknesses employed and the duration of the pressing.

Since the differences in the comparative moisture content of the sheets pressed with blotters and felts were as great as 10 per cent it was thought that they might affect the strength of the finished papers. Tests made on the sheets indicate, however, that the final srength was not affected by the amount of moisture in the sheet when ready for drying. The measurements, Table 1 show very good agreement in the results obtained with the blotters and felts.

As to the relative serviceability of the two couching materials however, felts were found to be preferable to blotters. Blotters become unsatisfactory after being used a few times in preparing hand sheets. Although subsequent drying and pressing smooths the surface and permits their being employed again, they are not as satisfactory as when new, and the number of times they can be used is limited. Felts, on the other hand, are easily kept in good condition and when properly cared for, their period of service has practically no determinate limitation.

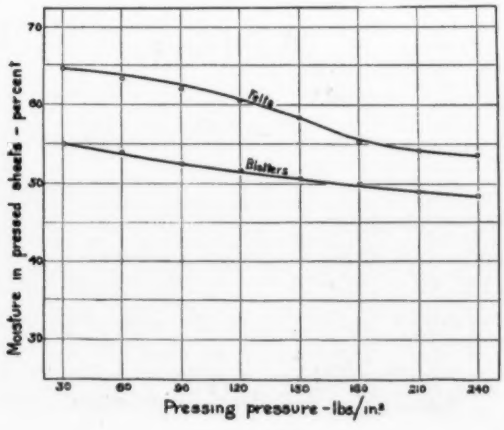


FIG. 4.
The comparative moisture content of sheets pressed with blotters and felts.

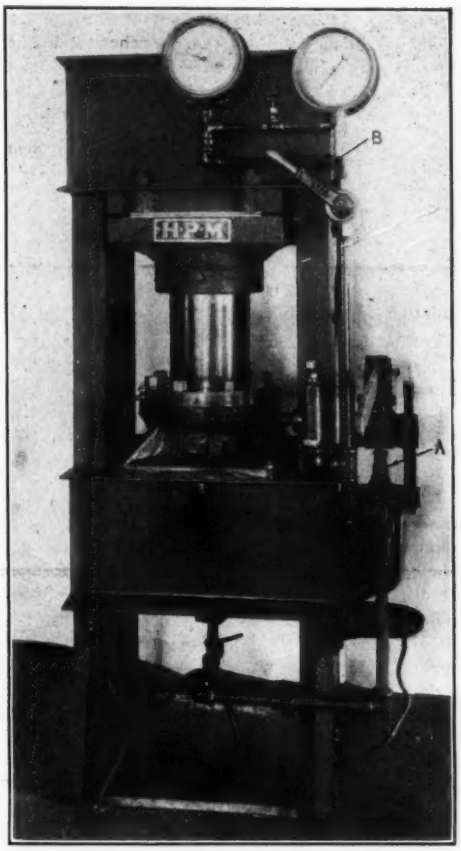


FIG. 5.
Sheet press.

4. SHEET PRESS

A hydraulic press, Figure 5, is used for pressing the hand sheets

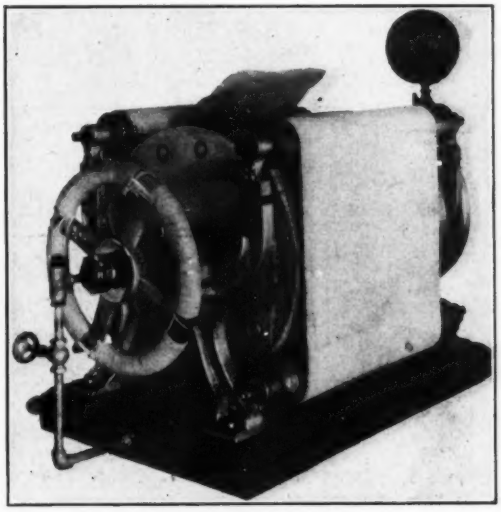


FIG. 6.
Sheet dryer.

before drying them. The press is operated by means of the hand pump A shown on the side and the release valve worked by the hand lever B. The two platen surfaces are 12 by 14 inches in size and the vertical displacement of the lower surface is 8 inches. This distance gives ample space for pressing a number of hand sheets at one time. The ram has a sectional area of approximately 50 square inches and sufficient force can be transmitted to it to maintain on the hand sheets any pressure up to 800 pounds per square inch.

5. Sheet Dryer

The dryer, Figure 6, consists of a steam-heated cylinder and a carrying felt which covers most of the cylindrical surface. The diameter and the length of the cylinder are 12 and 14 inches, respectively. A thermometer placed between the carrying felt and the cylinder in preliminary experimental tests showed the temperature used to be approximately 90 deg. C. A pressure gauge attached to the dryer is of value in preventing excessive temperature by showing when steam pressure develops within the cylinder.

III. Operation of Apparatus

Sheets are frequently made at the bureau in connection with the semi-commercial work to note changes in the strength of the pulp during the progress of the beating operation. The tabular data given herein is on stock taken from the semi-commercial beater.

A two-quart dipper of stock is withdrawn from the beater as a sample, which is sufficient quantity for several hand sheets, and to it six dippers of water are added. For stock of 4 per cent concentration the concentration of the mixture is approximately 0.6 per cent. A measured volume of the diluted stock is made into a hand sheet and from the weight of the dried sheet the volume of stock required for the desired test sheets is determined. The quantity of stock requisite for a test sheet is determined. This is then taken and is diluted further to approximately one gallon in the 1½-gallon container used with the agitator, Figure 1. The concentration of the final mixture is approximately 0.15 per cent.

The base, or mold support, of the sheet machine is filled with water, the mold and deckle box are set in place, and the assembled parts are clamped together (fig. 3A). Water is run into the deckle box to a height of 4 inches, making about 2 gallons above the screen. The propeller shaft of the agitator is lowered into the container of diluted stock and operated for ½ minute at a speed of 1,750 r.p.m. The stock is then immediately poured into the assembled sheet-making apparatus, the container being continuously moved back and forth, criss-crossing the mold, to insure uniform distribution. The dilution of the stock in the deckle box is about 0.05 per cent, which is ample for good felting of the fibers.

Fig. 7C.

Fiber sheet couched on felt (screen plate removed).

The steam-ejector valve and the quick-opening gate valve, respectively, are opened immediately after the transfer of the stock so that no delay occurs to give the fibers time to settle. The water and pump are drawn down and the sheet of fibers is formed on the wire. The length of time required for emptying the sheet machine depends on the rate at which water drains from the pulp —the "slowness" of the stock—but when the machine contains only water the time is 5 seconds. Quick emptying is necessary to prevent unequal distribution of the fibers. It has been found desirable to continue the suction at least one minute after the water has been discharged from the base in order to facilitate the subsequent drying of the sheet.

After the sheet is formed the deckle box is removed, Figure 7A, a felt is laid over the sheet, D, and the couching frame, A, is placed on it, as shown in Figure 7B. The couching frame, felt, sheet of pulp, and mold are then removed as a unit, inverted, and replaced on the mold base. Suction is again applied and the fiber sheet is thus transferred to the felt, Figure 7C.

The fiber sheet and the felt on which it rests are removed together from the mold and placed sheet up on a metal plate. An-

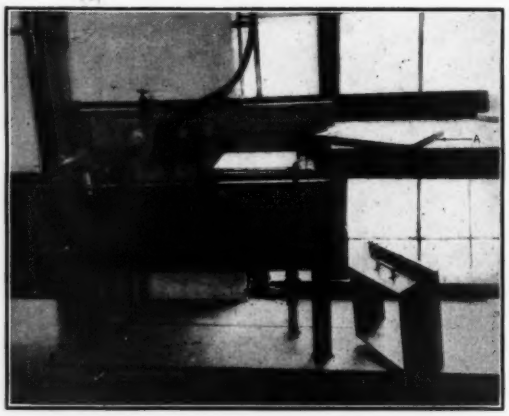


Fig. 7A.

Fiber sheet on screen after deckle box is removed.

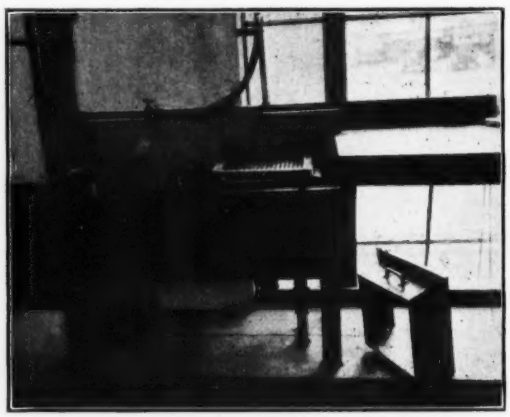


Fig. 7B.

Couching plate and felt in place on fiber sheet.

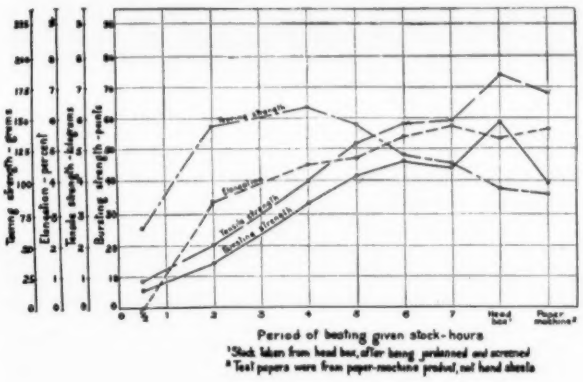

Tearing strength - grams
Elongation - percent
Tensile strength - kilograms
Bursting strength - pounds
Tearing strength
Elongation
Tensile strength
Bursting strength
Head box
Paper machine
Period of beating given stock - hours
¹Stock taken from head box, after being jordanned and screened
²Test papers were from paper-machine product, not hand sheets

FIG. 8.

Comparison of strength properties of fiber sheets. (Stock from beater run No. 1122).

other felt and another plate are laid on the sheet of pulp. A number of sheets are prepared in this manner and stacked one above the other. The completed stack of fiber sheets, felts, and plates, is placed in the hydraulic press and subjected to a pressure of 200 pounds per square inch for 3 minutes.

The pressure applied for compacting the sheet has considerable influence on the ultimate strength of the paper. To obtain comparative data in testing the strength of pulp it is imperative that a standard pressure be used. Previous tests by other investigators [11] have shown that strength increases with increase in pressure, the rate of change being more rapid, however, at the lower pressures. Since 200 pounds per square inch gives reliable results for all pulps and is the pressure recommended as a tentative standard by the Technical Association of the Pulp and Paper Industry it was the pressure adopted. The duration of the pressure has no appreciable effect on the strength of the sheet. Holding the load constant for three minutes gives very satisfactory results and this period of time was adopted as standard.

The drying is accomplished by feeding the sheets between the cylinder and the carrying felt of the dryer and turning the cylinder slowly by hand. If the paper-making stock is "free," the sheet is removed after two revolutions of the cylinder, turned over, and replaced in the dryer, care being taken to avoid wrinkling the paper. If the stock is "slow," however, the sheet is not removed, because of its tendency to cockle and wrinkle and the resultant difficulty in so replacing it in the dryer as to avoid creasing or other distortions. In either case the cylinder is turned until the paper is apparently dry.

The dried sheets are trimmed to 8 by 10½-inch size and the various strength properties of the paper are determined. The measurements are made by the official methods of the Technical Association of the Pulp and Paper Industry, under the standard atmospheric conditions for paper testing, 65 per cent relative humidity and 70 deg. F. temperature.

IV. Test Data on Finished Hand Sheets

Measurements on hand sheets made by the method described are given in Tables 2 and 3. The stock for the sheets of Table 2 was taken at the recorded intervals of beating in connection with a research problem in which it was desired to know the change in strength as the beating progressed. Data on paper made on the semi-commercial Fourdrinier paper machine from the same stock at the completion of the beating are included for comparison. Two different beaters of stock, Nos. 1122 and 1123, were used and two different weights of hand sheets were made. As the measurements show, the fibers were uniformly distributed and sheets of practically constant weight were produced regardless of the condition of the pulp being tested. The results of some of the tests on the lighter-weight papers are also shown graphically in Figure 8. The data for the heavier papers would give curves similar in slope but placed higher on the vertical scale.

As there is no definite relation between the data obtained on light-weight and heavy-weight papers made from the same stock, it is necessary to standardize the weight of the test sheets when adopting a standard method. A number of investigators have recommended that hand sheets of relatively heavy weight be made for test purposes. Since the quality of the heavier sheets bears little relation to the strength values of the usual machine-made paper, it is desired in the work at the bureau that the weight of the hand sheets correspond to that of the paper-machine product, and therefore the lighter-weight sheets are regularly made.

Table 3 reports the values obtained on the individual sheets made from a given sample of stock and test samples taken from

[11] The Determination of the Effect of Pressure on the Strength of Test Sheets in the Strength Testing of Pulp, by E. P. Cameron, Pulp and Paper Mag. of Canada, Vol. 21, No. 5, pp. 127-135 (Feb. 1, 1923).
The Effect of Pressure on the Strength of Test Sheets in the Strength Testing of Pulp, by E. P. Cameron and J. M. Payne, Pulp and Paper Mag. of Canada, Vol. 22, No. 3, pp. 53-60 (Jan. 17, 1924).

TABLE 2.—MEASUREMENTS FOR SHEETS MADE FROM DIFFERENT SAMPLES OF STOCK [1]

Beater run number	Beating interval [2] hours	Weight (25x40 in.—500 sheets) pounds	Bursting strength points	Ratio of bursting strength to weight (25x40 in.—500 sheets) per cent	Thickness inch	Folding endurance: Long direction [3] dbl. folds	Folding endurance: Short direction [3] dbl. folds	Tensile strength (strip 15x100 mm.): Long direction kg.	Tensile strength (strip 15x100 mm.): Short direction kg.	Elongation (strip 15x100 mm.): Long direction per cent	Elongation (strip 15x100 mm.): Short direction per cent	Tearing strength: Long direction g.	Tearing strength: Short direction g.
1122	½	54.8	5.9	10.8	0.0069	0	0	0.89	0.84	0.00	0.00	65.6	62.4
do	2	57.4	14.3	24.9	.0063	16	19	2.01	2.03	3.30	3.50	140.0	142.4
do	4	56.7	33.6	59.2	.0056	623	518	4.03	4.08	4.56	4.50	154.4	162.4
do	5	54.3	41.7	76.9	.0053	2207	1619	5.15	5.13	5.00	4.50	134.4	162.4
do	6	55.8	45.9	82.2	.0051	3627	3729	5.86	5.79	5.35	5.45	115.2	120.8
do	7	57.3	44.0	76.9	.0051	3359	3330	5.72	6.23	5.55	5.90	112.8	112.8
do	Head box [4]	56.4	59.0	104.9	.0048	....	....	7.30	7.57	5.15	5.55	93.6	91.2
do	....[5]	56.5	39.4	69.7	.0036	4418	5480	8.24	5.39	3.05	8.23	88.0	90.4
do	½	105.1	15.8	15.0	.0125	7	7	2.45	1.88	3.05	2.85	213.6	196.8
do	2	115.7	41.7	36.1	.0110	127	145	4.64	4.85	4.30	4.60	337.6	344.0
do	4	113.9	70.2	61.7	.0095	8028	7888	8.93	8.87	5.50	5.90	362.4	323.2
do	5	112.4	83.2	74.0	.0090	10098	10974	10.20	10.00	6.20	6.35	300.0	297.6
do	6	113.7	102.5	90.3	.0089	15184	16113	12.01	11.89	7.20	7.00	278.4	284.8
do	7	118.0	100.8	85.5	.0094	.....	.....	12.70	12.10	7.35	7.05	280.0	309.6
1123	½	57.8	8.0	13.8	.0074	0	0	.94	1.07	0.00	0.00	84.8	88.8
do	2	57.2	21.1	36.8	.0060	50	33	2.54	2.24	3.50	3.60	164.0	169.6
do	4	57.2	40.1	70.2	.0055	999	1246	3.92	4.33	5.04	5.02	164.0	176.8
do	5	57.1	44.6	78.0	.0053	3075	3575	4.65	5.09	5.36	6.20	148.0	143.2
do	6	56.8	46.7	82.2	.0053	3187	3380	5.01	5.21	5.39	5.92	133.6	136.0
do	7	56.7	53.7	94.6	.0050	2488	2747	5.50	5.68	5.93	5.68	126.6	108.6
do	Head box [4]	59.6	56.0	94.0	.0049	....	....	7.08	6.77	5.82	5.56	98.4	105.6
do	....[5]	57.5	37.2	64.6	.0038	3080	2688	9.20	4.85	2.48	7.63	98.4	108.0

[1] Hand sheets were made by Martin J. O'Leary, assistant paper maker.
[2] Reckoned from beginning of furnishing. Time required for furnishing was 15 minutes.
[3] Samples were taken from the sheets in the direction indicated. The values in the long and short directions, which should be equal in the ideal case, are given separately merely to indicate the uniform formation of the sheets.
[4] Sample taken from head box, after being jordanned and screened, during paper-machine run.
[5] Test papers were from paper-machine product, not hand sheets.

TABLE 3
MEASUREMENTS FOR DIFFERENT SHEETS MADE FROM ONE SAMPLE OF STOCK

Test paper	Bursting strength	Tensile strength (strip 15x100 mm.) Long direction	Tensile strength (strip 15x100 mm.) Short direction	Elongation (strip 15x100 mm.) Long direction	Elongation (strip 15x100 mm.) Short direction	Tearing strength (4 ply) Long direction	Tearing strength (4 ply) Short direction
	points	kg.	kg.	mm.	mm.	g.	g.
Hand sheet [1]	53	5.6	6.2	7.5	6.0	29	29
do	49	5.2	6.0	6.5	6.0	32	27
do	54	5.0	6.1	6.0	6.0	33	26
do	56	5.8	5.5	5.4	4.5	32	29
do	54	6.1	6.2	7.0	5.8	32	25
do	56	5.0	5.9	4.3	6.0	..	..
do	57	5.7	4.9	5.3	4.8	..	..
do	55	5.5	5.5	6.0	5.9	..	..
do	51	5.6	5.3	5.8	6.0	..	..
do	52	5.5	5.2	5.5	5.8	..	..
	53.7	5.50	5.68	5.93	5.68	31.6	27.2
Machine made [1]	37	10.0	4.7	2.5	7.2	24	28
do	35	9.6	4.9	2.7	8.5	24	25
do	43	8.8	5.3	2.5	8.5	24	25
do	36	9.8	4.8	2.7	8.0	26	29
do	41	9.1	4.7	2.2	7.5	29	26
do	35	8.9	5.0	2.0	6.7	23	26
do	35	9.7	5.0	2.5	8.0	23	30
do	36	9.6	4.6	2.5	7.7	24	30
do	33	9.4	4.4	2.5	5.7	26	26
do	41	7.1	5.1	2.5	8.2	23	25
	37.2	9.20	4.85	2.46	7.60	24.6	27.0

[1] From stock of beater No. 1123; beating interval 7 hours. Stock for machine-made paper was jordanned and screened.

the machine product made from the same stock after being run through the Jordan. The measurements for the different hand sheets are in good agreement, the variations being hardly greater than the usual experimental errors of the measuring instruments, and no larger than for the different test samples of the machine-made paper. The results show that the method permits duplication of sheets as many times as desired.

V. Summary

A laboratory method for making small sheets of fibers in studying the paper-making quality of pulp has been developed and a suction sheet machine has been designed. The method relates to the forming of the sheet of fibers on the screen and the subsequent operations of couching, pressing, and drying. The finished sheet is adequate to supply specimens for each kind of test ordinarily made to evaluate the quality of paper.

With the equipment and procedure described sheets uniform in quality—formation, weight, etc.—can be made by an operator of average skill. Measurements of the physical properties show that the different sheets made from a given sample of stock are in good agreement and that the sheets can be duplicated as desired. The personal equation is reduced to a minimum and truly comparable results can be obtained by different operators.

The Rinman Process

Dear Mr. Macdonald,

Further referring to the Rinman process in which you say your members are interested, I have just had information from Germany to the effect that the committee sent over from England to investigate the possibility of using it at the Regensborg mill mentioned in my previous letter has just made its report. The report states that the recovery of the by-products is too expensive to be practical. As I understand it the principal advantage claimed for the Rinman process is the possible recovery of by-products, and if this proves too expensive the advantage is lost of course.

Sincerely yours,
MARQUARD H. LUND,
Commercial Attache, Oslo, Norway

Swedish Pulp Market Dull

WASHINGTON, D. C., April 16, 1930.—The Swedish pulp market is without any interesting features, according to a report from Commercial Attache Lund, at Oslo, which states further that as a rule the tendency is rather dull with prices weak. Approximately 70 to 75 per cent of the 1930 production has been sold, and some contracts closed for 1931 delivery.

TAPPI Notes

E. B. Slack who for the past year has been at the Woodfibre mill of the British Columbia Pulp and Paper Company, Woodfibre, B. C., has now returned to Port Alice.

Arvid Wetterfors, formerly of the Swedish Match Company, Stockholm, Sweden, is now managing director of the Societe des Generale Allumettes, Rue Caussemille 40, Alger, Algiers, Algeri.

Myron F. Flotow for some time chief chemist of the Riverside Paper Corporation, Appleton, Wisconsin, has not joined the French Paper Company of Niles, Michigan.

E. H. Nunn, chemist for the British Columbia Pulp and Paper Company, Woodfibre, B. C. has joined the technical development staff of the Crown Willamette Paper Company at West Linn, Oregon.

Fred C. Shaneman, for some time salesman for the Great Western Electro Chemical Company in San Francisco, is now connected with the Tacoma Electrochemical Company at Tacoma, Wash.

Ralph Hayes formerly with Celulosa Cubana, and more recently a student at the University of Toronto is now a chemical engineer at the Ontario Paper Company, Thorold, Ontario.

There have been several inquiries as to the whereabouts of Harry H. Kern who was formerly with Jessups & Moore Paper Company, Wilmington, Del. Any information concerning him should be sent to the Secretary of TAPPI, 18 East 41 street, New York, N. Y.

New Book on Herringbone Speed Reducers

The W. A. Jones Foundry and Machine Company, of 4401-4451 West Roosevelt road, Chicago, has just published a complete and well-illustrated catalogue on Herringbone and Herringbone-Maag Speed Reducers that should be in the library of every mill superintendent and every designing engineer. In text and tables and illustrations this new catalogue Number 45 is the latest, up-to-the-minute word on the herringbone type of reducer. The beautifully bound book of eighty large pages is divided into three sections. The first goes into detail about the whys and wherefores of the herringbone and its manufacture; the second part is devoted to tables that are a guide to the rating and selection of this type of reducer, giving every sort of detailed technical information, measurements, and so forth; and the third part consists of a large number of photographs showing actual installations.

The W. A. Jones Foundry and Machine Company was established in 1890. They are widely known as manufacturers of quality gears of all sorts, couplings, pulleys, and so on. But they are even better known for the complete line of speed reducers they make—spur, worm, and herringbone.

Beginning the Second Century

Fairbanks, Morse & Co., of 900 South Wabash Avenue, Chicago, has just issued an attractive bulletin, illustrated in colors, entitled "Beginning the Second Century." This is a piece of institutional literature produced in celebration of the centennial anniversary of the invention of the platform scale by Thaddeus Fairbanks and the founding of the company which bears his name. The story goes into the history of the development of weighing machines and tells something of the accomplishments, the aims and aspirations of the company which has fostered this development.

A. F. Smith Rapidly Recovering

MIDDLETOWN, Ohio, April 14, 1930.—The many friends in the industry of A. F. Smith, of Frank Smith Paper Company, will be pleased to learn that he is rapidly recovering the use of his right hand which was severely injured when caught in the propellor of his aeroplane. Mr. Smith had to be away from the mill for some time, but is on the job every day now and expects to fly again shortly.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For additional information regarding these abstracts subscribers should address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C.

Machinery

Color-Depositing Apparatus for Paper Machine. C. G. Bright assignor to Paper Patents Company. U. S. pat. 1,709,969, Apr. 23, 1929. The invention provides an improved and simplified color spraying apparatus for the manufacture of so called tiffany wall paper, which is produced by spraying liquid color on the paper on the wire of the paper machine. The width of the sprays striking the sheet may be varied through vertical adjustment of the height of the nozzles above the paper; the sprays may be delivered either continuously or intermittently, and they are given a reciprocating motion transversely of the sheet. The color scheme can be changed by changing the time of the relative movements of different sprays or groups of sprays.—A. P.-C.

Method of and Apparatus for Manufacturing Book Paper. John Traquair assignor to the Mead Pulp and Paper Company. U. S. pat. 1,707,333, Apr. 2, 1929. The stock is flowed onto the wire in two stages; the bulk of the stock (which may be of relatively low grade in comparison with the desired characteristics of the finished paper) is first delivered on the wire, the greater part of the water escaping during the initial forming zone; after the web has been thus formed an additional supply of stock (of higher grade and of a character suited for the finish required in the paper) is flowed on the formed mat. A suction breast roll is used, provided with two suction boxes, the first covering that portion of the roll on which the lower or ground layer is formed, and the second suction box covering the portion on which the surface layer is formed. One-sidedness can be eliminated by combining two fourdrinier parts constructed as described and combining the two sheets as they are taken off the wires, the first-formed layer of each sheet inside the combined sheet, which is then pressed and dried as usual.—A. P.-C.

Modernising a Papermaking Machine with Special Reference to Machines making Esparto and Wood Pulp Papers. D. H. Thomson. World's Paper Tr. Rev. 91, 1880-1886 (May 31) 1994-1998 (June 7, 1929). A discussion of various points affecting the design and working of a paper machine making high class esparto and wood pulp papers, with a view to obtaining a production of 1 ton per week (132 hours) per inch of effective wire width. The following points are dealt with: strainers, vacuum boxes, couching, advantages of suction rolls, the dry end and draining the driers.—A. P.-C.

Yankee Paper Machine. E. A. Ohlin and F. O. Carlsson. Fr. pat. 651,996. At least two presses are provided between the couch press and the drier roll. There is one common top felt for all the presses, including the couch press, and individual bottom felts for each of the wet presses.—A.P.-C.

Advance of the Modern Paper Machine. G. A. Macklem, Beloit Iron Wks. Paper Mill 52, No. 23, 38, 40, 46-52, 91, (June 8, 1929). Pulp Paper Mag. Can. 28, 53-58 (July 11, 1929); Paper Tr. J. 88, No. 24, 82-85 (June 13, 1929). An outline of the development of the paper machine to its present stage of perfection. —A. P.-C.

Deckle Device for Fourdrinier Paper Machine. S. C. Wentz assignor to Paper Machinery Corporation. U. S. pat. 1,709,760, Apr. 16, 1929. Along each side of the machine, extending from the flow box to a suitable distance along the edge of the wire, a vertical side plate is supported from the side rail of the machine by means of a pair of horizontal bars. Along the lower edge of the side plate is a rubber edge ruler which is in contact with the wire. The construction is such that the width of the deckle and the pressure with which the edge ruler bears on the wire can be readily and quickly adjusted.—A. P.-C.

Rails for Removable Fourdrinier Paper Machine. A. H. Standley and Geo. D. Kilberry assignors to Beloit Iron Works. U. S. pat. 1,709,754, Apr. 16, 1929. The rails on which the fourdrinier part is rolled out when changing wire are of telescopic construction, so that the portion of the rails which is first placed inside the wire loop when the table is to be removed can be slid into the outer portion of the rails after the table has been moved out, thus leaving the space previously occupied by the table perfectly open and free.—A. P.-C.

Stock Consistency Regulator. F. B. Wells assignor to The Ohio Boxboard Company. U. S. pat. 1,707,966, Apr. 2, 1929. The stock from the jordan is discharged into a small tank through an inlet pipe projecting vertically upwards from the bottom of the tank to a height which can be adjusted by means of a close-fitting tube inside the pipe. At the top of the tube is a float with a vertical rod connected to the stem of a valve in a water pipe, so that the buoyancy of the float in the stock (which depends on the consistency of the stock) regulates the amount of fresh water delivered into the tank to dilute the stock. The apparatus operates only provided the stock coming from the jordan is at a higher consistency than that required. The apparatus may be set for different consistencies through the connecting means between the vertical rod and the valve stem and by adjusting the height of the inlet pipe; and this also permits of holding the stock longer in the jordan to regulate the treatment of the stock therein.—A. P.-C.

The Van de Carr Consistency Regulator. C. R. Van de Carr Jr. Abitibi Power and Paper Company, Beaupre, P. Q. U. S. pat. 1,665,425, Apr. 10, 1928: Paper Tr. J. 88, No. 23, 66-67 (June 6, 1929). The principle of the instrument consists in mounting a rotary screen in a vat or reservoir to which the stock to be regulated is fed through an orifice, preferably placed near the bottom of the vat. Between the end of the vat wall and the screen is a baffle to prevent eddying of the material within the vat, the lower edge of the baffle extending close to the bottom of the vat. Mounted between spaced guides is a float which is adapted to regulate the source of water connected to that part of the system from which the stock is taken. A relatively constant quantity of the stock to be regulated is fed into the machine, and the level of the stock in the vat builds up outside the cylinder due to the fact that the liquid carrying the suspended fiber must pass through the perforated wall of the cylinder, and a film of stock is deposited in a more or less continuous web on the screen. If the proportion of fiber in the stock is constant, the level of the stock in the vat will be constant; but if the fiber content varies the thickness of the layer of fiber on the screen also varies, and with it the level of the liquid in the vat. The float in the float chamber is provided to regulate or correct this condition.—A. P.-C.

Elastic Slice for Fourdrinier Paper Machines. Albert Renard and Papeteries Malaucene. Fr. pt. 658,370, July 25, 1928. The

slice, instead of being made of rigid copper or brass bars, telescoping into one another, are made of a suitable soft, elastic, and plastic material such as ebonite, mounted on a rigid horizontal bar, which is vertically adjustable.—A. P.-C.

Method for Obtaining Equal Strength of Paper in Both Directions. D. C. M. G. P. Papeterie 51, 726 (July 10, 1929). A brief description of the Bucking patent, according to which improved felting is obtained by producing vortexes in the stock on the wire by making it rise vertically through a large number of small tubes, from which it overflows into a small vat or trough which feeds the stock on to the wire.—A. P.-C.

Paper Stock Feed Regulators. Joseph Rossman, U. S. Pat. Office. Paper Tr. J. 89 No. 7, 63-74 (Aug. 15, 1929). A review of U. S. Patents.—A. P.-C.

Kolitsch Automatic Stock Feed Regulator. August Kolitsch, U. S. pat. 1,695,380, Dec. 18, 1928: Paper Tr. J. 89, No. 8, 54, (Aug. 22, 1929). When the web of paper carried by the wire reaches the suction boxes or suction roll the amount of vacuum in these devices will vary according to the density of the web passing over them, the heavier the web the higher the vacuum and the lighter the web the lower the vacuum. This variation of vacuum is made use of to control the feed of the stock to the flow box, so as to automatically keep the weight of the sheet uniform. In order to carry out this method of control and regulation, in addition to the outlet for feeding stock to the flow box with its manual adjustment, a second outlet is provided with a gate controlled by a pressure valve mechanism connected with the suction pipe leading from the suction boxes or suction roll. When the vacuum falls, the valve operates to open the gate valve and increase the amount of stock admitted to the flow box, and vice versa.—A. P.-C.

Suction Device for Paper Machines. M. Wenzl. Belg. pat. 354,905, Nov. 30, 1928. The vacuum is produced by a centrifugal, multiple stage, vacuum pump, the several suction boxes being connected to the several stages of the pump. Variations in the suction are obtained by varying the speed of the pump.—A. P.-C.

Paper Machine Wire. Wilhelm Keller. Fr. pat. 650,922. The bends in the warp and filler wires are made equal, so that both the warp and filler support the sheet equally. In this way the wear is evenly distributed over both warp and filler, and the paper obtained is more transparent because it is more evenly supported.—A. P.-C.

Device for Preventing the Formation of Air Bubbles Between the Paper Web and the Wire at the Couch Roll. A. Danninger and R. Kastner. Bel. pat. 356,374, Jan. 31, 1929. Excess pressure is maintained both over and under the web of paper and the wire as they are passing through the couch press, e.g., by blowing gas or vapor against the web.—A. P.-C.

Box Suspension for Suction Rolls. H. R. Farnsworth assignor to the Paper and Textile Machinery Company. U. S. pat. 1,706,660, Mar. 26, 1929. The construction is such as to facilitate insertion and removal of the box in the shell and to permit of easily adjusting the position of both ends of the box relatively to the shell, the adjusting means for both ends being located at the same end as the deckle control.—A. P.-C.

Cylinder Paper Machine. A. J. Haug. U. S. pat. 1,708,724, Apr. 9, 1929. The shape of the vat conforms fairly closely to that of the cylinder. The stock is admitted under a head such as to give a velocity approximately equal to the peripheral speed of the cylinder so as to prevent the washing off effect produced when the cylinder is run at a higher speed. In order to obtain better felting of the fibers, both the vat and the cylinder may be shaken in a direction at right angles to the line of travel of the cylinder and stock. Removal of the water through the cylinder is accelerated by suction, which acts on that portion of the cylinder which is immersed, and also on the portion which emerges from the vat until it reaches the couch roll, where air pressure is used to help transfer the sheet from the cylinder into the felt. A dandy roll may be used.—A. P.-C.

Means for Removing Condensate from Drying Rolls. G. S. Johnson assignor to C. F. Burgess Laboratories, Inc. U. S. pat. 1,709,581, Apr. 16, 1929. The end of the siphon pipe carries a coupling with a screw-threaded plug constituting an adjustable valve for a pivoted needle-valve carried by a float. When the amount of condensate in the bottom of the roll is sufficient to raise the float, the needle-valve opens and the condensate is forced out through the siphon pipe by the steam pressure in the cylinder. The parts are so proportioned that the float is not raised until after the water level is above the needle valve, thus preventing waste of steam. The device operates effectively whether the rolls are stationary or rotating.—A. P.-C.

Paper Drying System. F. C. Farnsworth, U. S. pat, 1,705,516, Mar. 19, 1929. The driers are divided into sections and are so coupled with the supply and return steam headers that the steam travels in the direction from the dry end section to the wet end section, the steam which has passed through the cylinders of one section being delivered to those of the next section with a predetermined maximum drop in pressure (e.g. about 1 lb.). The steam is thus allowed to blow right through the cylinders, the condensate being positively blown out and then removed from the steam in a separator before the steam is fed to the next section. A by-pass trapped by a water seal is provided between the supply headers of adjacent sections, so that the by-pass will permit the passage of steam from the supply header of one section directly into the supply header of the next cooler section to provide sufficient steam whenever the differential in the pressure between the headers of the two adjacent sections falls below the required value.—A. P.-C.

Miscellaneous

Introfiers, or Impregnated Accelerators. Marc Darrin, Mellon Inst of Ind. Res. Ind. Eng. Chem. 20, 801-804 (Aug. 1928). An introfier is a substance that accelerates impregnation, by changing the fluidity and specific wetting properties of the impregnating material towards the substance being impregnated so as to increase the facility with which penetration is effected. A large number of introfiers are described which accelerate the impregnation of wood fiber and fiberboard by sulphur. The molecular structure required by all sulphur introfiers is a plurality of cyclic nuclei. Chlorinated or hydroxyl substituted compounds may be used.—A. P.-C.

Extraction of Cellulose from Vegetable Products. F. G. P. Leao. Eng. pat. 293,219, Aug. 15, 1927. Cellulose is prepared from e.g., bamboo, bagasse, cereal straws, jute, reeds, grasses, and many kinds of wood by soaking the crushed and disintegrated raw materials for 4 to 9 days at e.g., 32°C. in the unfermented sap extract from freshly cut, mature, banana plants. The cellulose remaining after the removal of the spent liquor (which latter may be used as a fertilizer) is washed first with cold dilute hydrochloric or sulphuric acid and then with water, and is finally bleached.—A. P.-C.

National Paper Products Company Starts New Mill. Anon. Paper Trade J. 87, no. 17, 56-57 (Oct. 25, 1928). A brief description of the company's kraft pulp and paper mill at Port Townsend, Wash.—A. P.-C.

Apparatus for Cutting Grass in Connection with Papermaking. S. Milne. U. S. pat. 1,706,935, Mar. 26, 1929. The machine comprises two shafts, toothed circular knives and intermediate spacing collars detachably mounted on each shaft, the knives on one shaft overlapping the knives on the other shaft so as to cooperate to cut the grass. The knives are all adapted to turn with their respective shafts, and if desired, one knife only may be fixed longitudinally while the others are free to move endwise. Preferably one only of the shafts is driven and provision is made to adjust one or both of the shafts endwise to ensure that the cutting edges of the knives are kept in close contact. Below the two knife-carrying shafts are two parallel shafts on which are mounted rotary clearers, the arms of which are arranged to enter the spaces between the knives and remove any grass remaining therein.—A. P.-C.

SECTION OF THE
COST ASSOCIATION OF THE PAPER INDUSTRY
Affiliated with
THE AMERICAN PAPER AND PULP ASSOCIATION
Edited by Thos. J. Burke C.A. Sec.-Treas.

New Management Requirements *

By Gerald E. Stedman [1]

I believe this to be one of the finest addresses I have ever read because the speaker has clearly defined not only the causes of but the cure for the ills affecting his industry, which also affect ours.

It should be noted he urges the use of more paper—in advertising, which he says, can construct the most "bankable" assets known.

THOMAS J. BURKE

Rustle through the grass of any brook-bordered meadow. Search out an adult frog, possessed of such hopping ability that catching him fatigues you. Soothe his inflamed fears until he willingly remains seated in a pan of water. Gradually increase the water's temperature. Insensible to the change, Mr. Frog will not hop out. Slowly bring the water to a boil and the frog will doze into unconsciousness and death, even though he could have hopped out of his predicament at any time.

Revolutionary Marketing

The frog reflects a phenomenon occurring in the business world today. Underlying tendencies are slowly, insensibly revolutionizing the entire field of marketing. *Some long established businesses, captained by moss-covered minds who have failed to study, observe and react to the change, are being lulled into sleep when, long ago, they should have hopped into action to protect themselves.*

As Merle Thorpe says . . . . "Great economic currents are sweeping across the land, cutting new channels. A commercial house of a century's standing may be destroyed with bewildering suddenness. By the same token, an infant enterprise may become overnight, a national institution." We are in a new business world of marvels piled high. We can talk to airplanes miles up in the air or from ships miles out on the storm-tossed oceans. Clapboards and newspapers from cornstalks, rubber from milk weed, ice from gas, plant food from the air, alcohol from wool, paint from cotton. All industries battle for the consumer's dollar. There are more desires than there is money to buy. The consumer "elects" to purchase some products immediately, mentally decides to purchase others eventually and others, low in elective desire, the consumer seldom buys—even though there exists an even greater need for such ownership. Thus some industries win and some lose, in proportion to the strategy, the ingenuity, the cleverness which they employ in educating the public to an elective preference for their products.

Oil, coal and gas are fighting for the job of heating the country. Natural ice fights manufactured ice; electric battles gas refrigeration; the laundry owners attack washing machine manufacturers; the cigarette industry, having conquered cigar preferences, now joust with the candy industry. So the competitive battle rages over the entire business terrain—product with product, company with company, industry with industry and only the fittest survive. Elimination, consolidation, merger, liquidation, bankruptcy are the order of the day as the purging fires of change destroy the weak and advance the strong. *In this bewildering, kaleidoscopic, bubbling turmoil, irrespective of previous success, venerable history or former position, manufacturers vault to new dominating leadership or lose position in relation to how they recognize or ignore the necessity for revision of policies and plans.*

Trends Cannot Be Ignored

These trends cannot be ignored, as some lazy minds feel. They cannot be defied, as some headstrong minds think. They cannot be circumvented, as some mistaken minds hope. They demand agreement and call, therefore, for the latest intelligence, the keenest imagination, the most inspiring courage which can be delivered by alert management.

One little slip in faulty thinking may mean the loss of millions in ungained profit and such losses are the more costly because they cannot be readily appreciated.

Succeeding today is not so much a matter of sitting up nights as it is of keeping awake during the day. Business has developed such a momentum as only an alert mind, itself in momentum, can maintain. It demands specialized abilities in production, finance, distribution and advertising by minds that are synchronized with present day changes. By sheer force of brain-power alone can a company or industry rise to dominating leadership and the more scientific and highly organized the battle becomes, the more will brain-power prevail over artificial power of lesser minds who depend upon huge financial resources or former successful experience to pilot them. *It is brain-power that molds the destiny of commerce and industry today and there is no substitute for it.*

Today and tomorrow, industry is going to give concern to the purchase of accomplishment—in brain-power able to develop preferential acceptance, greater net profits, larger sales protection and control, predominating good will—and the sooner the manufacturers of an industry find it, the sooner their enterprises will profit. There is no time in the competitive battle for dawdling along at a pace of mediocrity with the brains that happen to be on the payroll, no matter how skilled they formerly have been,

[1] Director of Market Planning, The Cramer-Grasselt Co., Milwaukee, Wis.
* National Gas Appliance Manufacturers Assn. Bulletin.

if they do not fit the particular job to be done, if they are unable to think straight, if they are unable to give up rock-ribbed traditions and archaic viewpoints which no longer apply. This is no time for "oyster-armored" minds, impervious to change. *Frog-like characteristics in executive direction are the greatest hazard to profitable business survival today.*

Salesmanship Entering New Era

Salesmanship is entering a new era. *No longer are goods bought—now they must be sold.* No longer can the manufacturer permit his responsibility to stop when the goods have reached the dealer's floor—now he must give resale assistance to the dealer. *The earning power of the manufacturer, today, depends upon controlling and insuring the ultimate purchase of his goods.* This requires greater alertness, and salesmanship now must be helpful rather than pestiferous, welcome rather than unwelcome, informative rather than flamboyant, engineered rather than ballyhooed, researched rather than strong-armed, and serviced rather than forced. The good old ways are the new poor ways today.

Advertising is entering a new era. Under this changed order of things, you have more than the task of creating your products physically—now you must make them live on a preferred basis in the public mind. This mental property of public acceptance, good will and preferential desire for your products, is property crucial to your success today. Without it you cannot hope to long endure the eliminative process resulting from the competitive battle. The continuing productivity of all your other properties and facilities depend upon becoming known on a preferred basis. Markets have become national in scope. The public, consciously or otherwise, is being educated to new planes of living, to new enjoyment, to new needs by national Advertising Unfelt needs spring into elected desires through this instrument. No longer does the public hunt out the unknown product, even though it might be a better one. It constantly exhibits greater desire for, acceptance of and confidence in that product that has become nationally known through publicity.

Bankers are beginning to hesitate to loan to corporations who are not fortifying their continuing ability to sell with proper investments in advertising. They know that, lacking this crucial property of good will in the buyer's market which competition is producing, a non-advertiser is due for a deficit, and eventual elimination. Where once they based their loans on such physical collateral as finished inventories, plant equipment and such; now they realize that such collateral, lacking the good will that insures continued demand, becomes a "frozen" asset difficult to liquidate and costly to handle. Today bankers are basing loans upon earning power which, of course, is dependent upon recognition and good will which, in turn, can only be developed by a superior product well advertised.

Most Bankable Asset Known

Advertising, rightly engineered, can construct the most tangible, the most bankable assets known. Nothing today brings a higher price than good will. *When Dodge Brothers sold out, they received more for their good-will assets than for their entire material assets.*

The Lambert Pharmacal Company, of Listerine fame, has physical assets, plant equipment and buildings of only $894,000; *yet the market gives their securities a value of $53,000,000.* What is this $53,000,000 behind which there is not a shred of material collateral? It is the good-will value that advertising has built into the name Listerine which guarantees to Lambert the continued ability to maintain a profitable sales volume.

Cheek-Neal was, until a few years ago, a small Southern jobbing house. Then it put advertising behind the name Maxwell House Coffee and developed such good-will that it brought a price of $39,000,000 when sold out recently.

George K. Morrow, one of America's most active mergerists, recently declared, "I would sooner pay ten million dollars for trade-mark good-will without property than to pay one million dollars for property without good-will."

From every standpoint—whether in offsetting competition, defeating price warfare, increasing the flow of demand, creating elective desire, building increased awareness for new models, making it easier for tradesmen and resalesmen to sell, improving position with bankers, enhancing of workmanship among craftsmen, attracting a higher grade of dealers and resalesmen, assisting in new financing, improved earnings, raising security value, delivering depression-proof qualities to a business, creating an offensive advantage in merger discussions, or as a protection against liquidating only at junk prices; national advertising is now an indispensable, tangible, bankable, profitable investment providing profound sales protection and control over the trends and changes that might otherwise be ruinous to a business or an industry. If rightly understood and executed, it is impossible to "throw money away" in advertising.

Management Facing New Era

Management is facing a new era. Frederick the Great once said: "The greatest and noblest pleasure which men can have in this world is to discover new truths; and the next is to shake off old prejudices." It is that ability which must characterize the executive thinking of management during the oncoming years. Time is insufficient to cover all the revisions in executive thinking which changed conditions in the gas appliance industry require but an adequate solution of your problems depends so trenchantly upon it that I deem it wise to set up a few of the yardsticks which can be safely used to gauge the correctness of the management viewpoint and executive thought in your industry in this new day.

Criticism needs no defense. It changed the Santa Maria into the Leviathan. The old post dispatch into the modern wireless. Criticism is just another way to spell progress and I assume that you did not invite me here to flatter and mollycoddle but to constructively criticize. *I make no apolgies in saying that the greatest weakness in your industry and the chiefest cause of many of your problems originates from faulty executive thinking. Management within it, needs more intelligence, imagination and courage.*

First of all, management must make a better distinction between the policies required to successfully perform in a seller's and buyer's market. It calls for a right-about-face in viewpoint.

In a seller's market, where demand exceeds supply and the manufacturer has the advantage, the problem is one of producing enough to answer the demand. The public voluntarily comes to the dealer and the market suction is so strong that very little sales machinery is necessary. The chief problem is production and the viewpoint and policies of management are productwards. But in a buyer's market, such as now exists in the gas appliance industry, when the supply exceeds the demand, market suction stops, the public ceases voluntary purchase, sales resistance increases, over-production brings price warfare; the problem is one of selling rather than production and the view point and policies of management must be marketwards. Intensive selling must supplant voluntary purchase. The force must be applied in the home rather than at the store. The dealer must make his sales dollar turnover outside, rather than inside his store. Haphazard selling must give way to factory control of a sales organization trained, directed, supervised and properly fortified for successful resale operation.

Should Become Market Conscious

Very often an industry, in its seller's market, develops management highly skilled in production and this management, untrained and unexperienced in merchandising, is carried over into the buyer's period where its highly skilled abilities are of no avail and yet it bases its decisions on past experience that does not apply. Such management should become market-conscious, rather

than product-conscious. It should change policies and cast adrift from its former viewpoint or get out of the way.

In the second place, management must realize that under these new conditions of a buyer's market, sales machinery is of greater importance than plant machinery since it is useless to produce anything that cannot profitably be sold. Management should be as willing to invest in sales machinery as in plant equipment. It should be willing to change the models of its sales policy and plans as it is to introduce new models in product design. Investment in sales machinery should be made in the same way that new plant machinery is bought. When adding a new machine, you first ascertain the job to be done and the operation to be accomplished and then you select the machine that will most economically effect that result. The same horse sense, is not used in purchasing marketing machinery. Rather than to figure out the job to be done, the weak executive thinks only in terms of cost and usually selects the cheapest weapon to accomplish the greatest result, with the result that the machinery is by no means adequate and the operation fails. Thus the cheapest becomes the most extravagant when one tries to slay white elephants with a pop gun.

In the third place, management must select the competitive weapon of preferential value rather than mere price appeal. *The weakest, laziest, most ignorant decision is to compete on a price basis.* It shows an utter paucity of merchandising understanding. It exhibits a lack of courage, a lack of conviction, a timidity of action; a complete admission of the lack of sufficient ingenuity and intelligence. *Price appeal is like the dope habit—it gets worse and worse the more it is practiced. There is always some fly-by-night outfit willing to liquidate distressed merchandise at a lower price which forces the entire price range down repeatedly until it becomes impossible to do business at a profit.* Price throws manufacturers into competition; it has no power to remove them from competition. One of the greatest weaknesses of your industry and one which most strongly reflects a weakness in management is the fact that certain manufacturers have built their sales plans, for years, on price appeals with the result that you have chased each other down the scale of declining price range and profit margins until now you have awakened with a headache to claim that there is no profit in the industry. You have provided the consumer with little incentive to own a new and modern gas range. Your greatest appeal has been that by spending $49.50 she could get an all-white range. There has been little development of preferential value.

Must Plan for the Future

In the fourth place, *management must plan for the future rather than just the present.* Some of these problems cannot be whipped within a current year and the type of management that is so near-sighted as to consider only those things expedient to the moment, which is concerned only with this year's sales volume or this month's sales campaign, is failing to make the efforts of its organization pay the double result of contibuting to an eventual objective of dominating leadership as well as the attainment of present volume. It is just the difference of building a house on rock or on sand. The gas appliance industry would not be in its present predicament if it had looked to the future some years ago rather than confining all its attention to the little details of the present. It is a poor skipper who steers for a point on a near horizon when his port lies over the sea.

In the fifth place, management must consider the public service to be rendered and the public need to be aroused, rather than just the selfish desire for a profit. Emerson once said that "If one desires a great profit, one needs only to render a great service and the profit will come automatically." No product grouping answers a greater need than gas appliances. They are intimately connected with the most profound necessities of life-heating, cooking, sanitation. They affect the very existence of the race. They add immeasurably to the comfort and enjoyment of life. New refinements in product, new improvements in performance contribute as great a service to the American public as do washing machines, vacuum cleaners, and such. The potential range of service is as great as that of any other industry.

Public is Putting Up With a Lot

So far you are failing. Other industries are rendering this public service better. *The result is the public has little preferred desire for gas appliances and willingly puts up, year after year, with the same old gas range*—suffering all the annoyances in cooking and heating that old-fashioned or inadequate equipment produces. Housewives burn the meat, have countless little troubles with the oven, spend longer in the kitchen than they should, give time and drudgery to the arduous job of being an old fashioned housewife so far as gas ranges are concerned. Men shave in cold water and lose their temper because they don't want the bother of going down in the basement to light the old gas burner. Children bathe only on Saturday night and risk the diseases that result from unsanitary bodies because hot water is not constantly available. *The public is putting up with a lot because of your failure to render this service of building preferential desire.*

Latest estimates show that over 7,000,000 of the gas ranges in use are out of date; over 8,500,000 of the hot water heaters are obsolescent. A survey in a New England city of 28,000 homes showed 23,000 gas ranges of which only 4,000 were of the cabinet range type and only 2,000 of these were equipped with heat control or temperature regulation of the oven. Yet many manufacturers within your industry complain that there is no business to be had and that profit opportunity had fled. There will be business and profit just as soon as your industry stops being derelict to its great responsibility of rendering a service to the public by making it see all the mean, annoying, bothersome little discomforts that it is enduring. When you make that vivid enough, the public will pay any reasonable price for the newest model and latest fashion in gas equipment and in proportion to how you free them from these annoyances will your profit be. *Management must realize that profit is an automatic result of service and if you don't get it, someone has failed to render the service.* Become evangelists. Don't fail the public. Vision the need and supply the answer.

Management Must Be More Useful

In the sixth place, management must be more unselfish than self-centered. If the industry is to get out of the slough of difficulty in which it is engrossed; either through associated action or through the unselfish action of its individual manufacturers, the public must be enlivened to the need of modern gas appliances generally. Until it feels this need in greater fashion than it feels the need for other products, the public will continue to ignore the purchase of gas appliances. Publicity is needed. The public must be made conscious of its needs. There is no instrument which can do this as extensively, efficiently, economically or convincingly as advertising.

We conducted a survey among 500 women recently to find the way certain products ranked in the order of their elective desire. We asked these women to list 12 product classifications in the order of their desire to purchase and own. Fur coats came first, then the automobile and way down at the bottom—the very last desire they had was for a new gas range. The task is through unselfish advertising to get gas appliances up nearer the top. But *weak management, with a near-sighted and self-centered viewpoint, constantly refuses this obligation because it fears that some competitor may benefit from its activities.* It fails to see that *there is no enduring illustration of a company that has ever succeeded at the other fellow's expense.* It fails to realize that the public has constantly showed favoritism in purchase and allegiance in action towards that individual manufacturer that has

first sincerely educated it to the need. Campbell Soup, Maytag Washing Machines and countless other examples attest this fact.

Seventh, and finally, management must realize that to make money for the company it must first provide a way whereby others can make money first....in other words, it must provide a sales opportunity and an incentive and reward to those who shall be charged with the all-important task of selling the product.

We have discussed briefly the changes that are required in management, salesmanship and advertising. In the thick of the fight overseas, I often wondered what chance a man would have had with a muzzle loader competing against the modern Browning rifle. Before he could get the darned thing loaded, the machine gun would crochet daylight through his soul. Business is a great deal like fighting a battle. You can't fight to-day's battles with yesterday's weapons, particularly in the gas appliance industry where the competitive battle is hot. Yet I am forced to say that the industry, as a whole, is still in the muzzle-loader days of merchandising and until it reconstructs its viewpoint and revises its policies, there would be little use of specifically defining what should be done. The problem is one of right thinking—that is why I have laid so much stress on that point in the talk so far.

Alert To Changing Conditions

The gas appliance industry is in a buyer's market, burdened with competition, low elective preference, high obsolescence, much distressed merchandise, price warfare, declining profit margins. It has little control over the competition of other industries for the consumer's dollars. It lacks control of production, prices, distribution, merchandise flow outlets. This is an analogous situation to that of the washing machine industry today, yet the Maytag Company, the organization with which I have the honor to be associated as advertising and merchandising counsel, has been sufficiently alert to changing conditions, far enough in advance to permit the constant revision of policies and plans, so that today it stands as the unquestioned leader of the industry, selling one out of every three washing machines manufactured, embarrassed by none of the problems which face all others in the industry, entirely removed from the virulent price competition extant and on such a preferred plane in the public mind that it receives $160 for every Maytag washer while the average price is around $90. In fact, Maytag finds it almost impossible to sell at a lower price. Some time ago it introduced a model for $135 which was identical, except for wringer and color, with its higher priced model and just as good a machine in every way. Yet the public refused to buy it and demanded the higher priced machine. The Maytag Company has increased volume and profit every year while others in the industry constantly find it harder to survive. It has just closed the books on its greatest year of net earning and looks serenely out on the future in full control of its 2,500 dealers, its 10,000 resalesmen, its vast organization of branch division and district managers, who give factory-controlled assurance of every operation down through after-sale service to the ultimate consumer. The definite suggestions that I shall make, from now on, can only be actuated by individual manufacturers and they are based upon lessons learned from our identity with the Maytag success. It is impossible, as you will realize, to suggest any marketing solution that could be entered into by all as an association.

Time is not sufficient to go into all the ramifications and details of a solution. I shall merely suggest the sillwork upon which it should rest and shall be happy to go into the matter more thoroughly in personal conference, should anyone desire it.

Kimball and Pease Go With Gilman Paper Co.

B. Milton Kimball and Roger Q. Pease have resigned as directors of the Nashua River Paper Company after eleven years of service. Messrs. Kimball and Pease have associated themselves with the Gilman Paper Company, of Gilman, Vt., in full charge of the manufacture and sales of Green Mountain Kraft.

TAPPI MEETS ON COAST

(Continued from page 23)

lems in the Pulp and Paper Industry." These difficulties include water that is hard to treat; plants inadequately equipped or of ancient design, and lastly plants in charge of operators who are not trained in a technical way to handle the job efficiently.

Although Dean Tyler has had more experience in the East than in Western territory, having been in his new location less than a year, he has already discovered several solutions to problems that have come to his notice in connection with filtration plants and water supply in pulp mills. He gave a most explicit analysis of various water conditions from the chemical and sanitary standpoint which was valuable to northwestern plant operators.

Process Industries

"Effect of West Coast Wood Pulp Manufacture on the Process Industries," injected a new slant into the possibilities of further co-operation of the pulp and paper industry when presented in the interesting paper of Dr. Paul V. D. Manning of San Francisco.

Dr. Manning explained that the process industries all have a common interest in factors relating to markets, transportation and general operating conditions in their respective districts. This interlocking of activities is a matter for close scrutiny and is a vital contribution to success and profit. On the West Coast the three main process industries are wood, minerals, and food, and in the former the pulp and paper industry is closely concerned.

The salient thought in Dr. Manning's discussion was that no industry can be a law unto itself and act on individualistic principles entirely. For only through mutual concern and an aim at general progress can any one industry prosper.

Dr. Manning said that the pulp and paper industry was doing much toward eliminating the logging waste in the country and that there are other ways in which pulp and paper industries will be able to co-operate in the territories in which they operate.

A. H. Hobson Speaks for Conservation

Allen H. Hobson of the U. S. Forest Service was another booster for timber conservation, pointing out how the pulp and paper industry might tie up with lumber and even with water power development. He cited a specific instance where one lumber and paper mill owner actually was manufacturing and selling power which he had originally manufactured only for the operation of his own plants.

A lack of time made it necessary to abbreviate other valuable papers on the program, although in the limited period allotted some very helpful ideas were developed.

"The Manufacture of Liquid Sulphur Dioxide and Its Use in the Pulp and Paper Industry" was the subject discussed by R. Leonard Hasche, chemical engineer in the research department of the American Smelting and Refining Company.

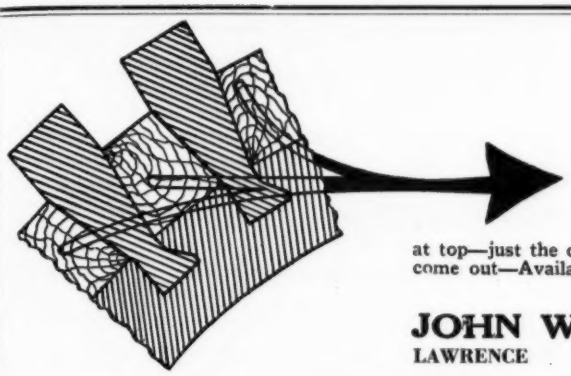
Dr. Leo Friedman of the University of Oregon, discussed "Contribution of Colloid Chemistry to the Pulp and Paper Industry," and Prof. W. L. Beuschlein of the University of Washington had for his subject "Cooking of Finely Divided Fir Wood in Sulphate Acid."

"The Chlorination Process For Refining Pulp Mill Screenings and Raw Cooked Fiber," was a discussion led by C. A. Newhall of Seattle.

The principal speech at the evening banquet was "The Relationship Between the Technical Man and the Mill Superintendent," given by W. G. Brown, superintendent of the Millwood, Wash., plant of the Inland Empire Paper Company.

To Meet Next in Portland

The Fall meeting of the Pacific Coast Section of TAPPI will be held in Portland, Oregon, and the date set aside for this gathering will be announced later.



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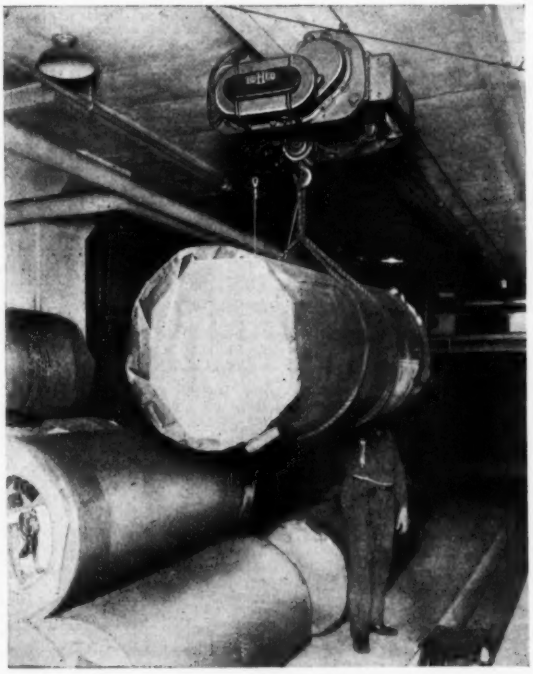

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IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING APRIL 12, 1930

SUMMARY

Cigarette paper .....1048 cs.
Wall paper .....60 bls., 31 cs.
Paper hangings .....5 bls., 8 cs.
News print .....5,839 rolls
Printing paper .....42 rolls, 65 bls., 71 cs.
Wrapping paper .....45 rolls, 29 cs.
Packing paper .....38 bls., 39 cs.
Drawing paper .....3 rolls, 47 cs.
Filter paper .....134 cs.
Writing paper .....20 cs.
Metal paper .....14 cs.
Surface coated paper .....17 bls., 28 cs.
Photo paper .....3 cs.
Decalcomania Paper .....53 cs.
Colored paper .....18 cs.
Sulphate paper .....294 rolls
Carbon paper .....1 cs.
Caoutchoue paper .....8 cs.
Cover paper .....4 cs.
Label paper .....4 cs.
Tissue paper .....10 cs.

CIGARETTE PAPER

H. H. O'Leary, J. Cartier, Bordeaux, 2 cs.
M. Spiegel & Son, J. Cartier, Bordeaux, 9 cs.
American Tobacco Co., J. Cartier, Bordeaux, 400 cs.
F. Murray Hill, J. Cartier, Bordeaux, 3 cs.
Liggett & Meyers Tobacco Co., Paris, Havre, 63 cs.
H. H. Strauss, Paris, Havre, 100 cs.
De Manduit Paper Corp., Waukegan, Havre, 162 cs.
F. C. Strype, Roussillon, Bordeaux, 1 cs.
American Tobacco Co., Roussillon, Bordeaux, 300 cs.
M. Spiegel & Son, Carnia, Genoa, 8 bls.

WALL PAPER

F. J. Emmerich, American, Hamburg, 6 bls.
Tice & Lynch, American, Hamburg, 1 ble.
A. L. Diament & Co., Mauretania, Southampton, 5 cs.
Irving Trust Co., St. Louis, Hamburg, 10 cs.
Globe Shipping Co., St. Louis, Hamburg, 2 bls.
W. H. S. Lloyd & Co., Minnewaska, London, 12 cs., 29 bls.
Thomas & Pierson, Homeric, Southampton, 3 cs.
J. E. Bernard & Co., Homeric, Southampton, 1 cs.
J. E. Bernard & Co., Aquitania, Southampton, 2 bls.
F. J. Emmerich, Pr. Harding, Hamburg, 20 bls.

PAPER HANGINGS

Whiting & Patterson Co., Inc., Mauretania, Southampton, 5 bls., 1 cs.
F. J. Kramer & Co., Homeric, Southampton, 7 cs.

NEWS PRINT

Parsons & Whittemore, Inc., Carplaka, Kotka, 413 rolls.
———, Carplaka, Kotka, 355 rolls.
———, Bergensfjord, Oslo, 373 rolls.
Perkins, Goodwin & Co., St. Louis, Hamburg, 505 rolls.
W. H. Bell, Markland, Liverpool, N. S., 4193 rolls.

PRINTING PAPER

American Express Co., America, Hamburg, 5 cs.
Perkins, Goodwin & Co., St. Louis, Hamburg, 65 bls.
W. A. Foster & Co., Transylvania, Glasgow, 19 cs.
P. C. Zuhlke, Pennland, Antwerp, 31 cs.
Sylvania Industrial Corp, Pennland, Antwerp, 13 cs.
G. W. Sheldon & Co., Aquitania, Southampton, 3 cs.
Keuffel & Esser Co., Pr. Harding, Hamburg, 42 rolls.

WRAPPING PAPER

F. C. Strype, Pennland, Antwerp, 20 cs.
H. Reeve Angel & Co., Inc., Pennland, Antwerp, 3 cs.
Standard Products Corp., Pennland, Antwerp, 45 rolls.
C. Steiner, Pr. Harding, Hamburg, 6 cs.

PACKING PAPER

L. Serra, Inc., Extavia, Genoa, 38 bls.
American Express Co., St. Louis, Hamburg, 39 cs.

DRAWING PAPER

Favor Ruhl Co., Minnewaska, London, 5 cs.
Keuffel & Esser Co., Pr. Harding, Hamburg, 42 cs., 3 rolls.

FILTER PAPER

E. Fougera & Co., J. Cartier, Bordeaux, 123 cs.
H. Reeve Angel & Co., Inc., Minnewaska, London, 11 cs.

WRITING PAPER

F. B. Vandegrift & Co., America, Hamburg, 10 cs.
Distinctive Writing Paper Co., Mauretania, Southampton, 1 cs.
Globe Shipping Co., Homeric, Southampton, 7 cs.
Globe Shipping Co., Aquitania, Southampton, 2 cs.

METAL PAPER

K. Pauli Co., America, Hamburg, 14 cs.

SURFACE COATED PAPER

Quality Art Novelty Co., St. Louis, Hamburg, 17 bls.
Gevaert Co. of America, Pennland, Antwerp, 28 cs.

PHOTO PAPER

J. J. Gavin, Homeric, Southampton, 3 cs.

DECALCOMANIA PAPER

C. W. Sellers, St. Louis, Hamburg, 15 cs.
C. W. Sellers, Bremen, Bremen, 3 cs.
B. F. Drakenfeld & Co., Caronia, Liverpool, 16 cs. (simplex.)
C. W. Sellers, Pr. Harding, Hamburg, 19 cs.

COLORED PAPER

Atlantic F'd'g. Co., America, Hamburg, 9 cs.
Borden Riley Paper Co., Pennland, Antwerp, 9 cs.

SULPHATE PAPER

Insight Paper Co., Bergensfjord, Oslo, 294 rolls.

CARBON PAPER

F. C. Strype, J. Cartier, Bordeaux, 1 cs.

CAOUTCHOUC PAPER

American Express Co., St. Louis, Hamburg, 8 cs.

COVER PAPER

International F'd'g. Co., St. Louis, Hamburg, 4 cs.

LABEL PAPER

Downing & Co., Pennland, Antwerp, 4 cs.

TISSUE PAPER

F. C. Strype, Caronia, Liverpool, 3 cs.
W. J. Byrnes, Aquitania, Southampton, 7 cs.

MISCELLANEOUS PAPER

Japan Paper Co., Tai Yin, Kokohama, 18 cs.
C. Schleicher Schull Co., St. Louis, Hamburg, 3 bls.
E. H. Sargent & Co., Kungsholm, Gothenburg, 10 cs.
The Borregaard Co., Inc., Kungsholm, Gothenburg, 402 rolls.
Kramer & Co., Kungsholm, Gothenburg, 85 bls.
Keller Dorian Paper Co., Paris, Havre, 7 cs.
Hensel, Bruckman & Lorbacher, Paris, Havre, 6 cs.
Lorscheider Schang Co., Paris, Havre, 3 cs.
Houbigant Co., Paris, Havre, 10 cs.
Japan Paper Co., Paris, Havre, 40 cs.
Standard Products Corp., Paris, Havre, 315 cs.
Guibout Freres, Paris, Havre, 2 cs.
Dingelstedt & Co., Pennland, Antwerp, 5 cs.
Gershel & Neuman, Waukegan, Havre, 20 cs.
Standard Products Corp., Roussillon, Bordeaux, 122 cs.
American Express Co., Roussillon, Bordeaux, 70 cs.
Japan Paper Co., Roussillon, Bordeaux, 7 cs.

RAGS, BAGGINGS, ETC.

Guaranty Trust Co., Brazil Maru, Hamburg, 38 bls. rags.
F. Stern, Brazil Maru, Hamburg, 63 bls. rags.
———, America, Hamburg, 171 bls. rags.
C. R. Spence & Co., N. Y. City, Bristol, 232 bls. rags.
———, J. Cartier, Havre, 59 bls. rags
A Hurst & Co., J. Cartier, Bordeaux, 150 bls. paper waste.
F. Stern, Flotenstein, Antwerp, 51 bls. rags.
E. J. Keller Co., Inc., Flotenstein, ———, 81 bls. rags.
Kahn Bros., Ancon, Cristobal, 23 bls. rags.
W. Steck & Co., Sud Pacifico, B. Ayres, 95 bls. bagging; 19 bls. new cuttings.
P. Garvan, Sud Pacifico, Havana, 142 bls. rags.
Irving Trust Co., St. Louis, Hamburg, 61 bls. nappers.
Castle & Overton, Inc., Transylvania, Glasgow, 64 bls. rags.
Brown Bros. & Co., Transylvania, Glasgow, 43 bls. rags.
———, Transylvania, Glasgow, 109 bls. rags.
J. Cohen Son & Co., Transylvania, Glasgow, 18 bls. paper stock.
T. D. Downing & Co., Transylvania, Glasgow, 180 bls. paper stock.
Baring Bros. & Co., Transylvania, Glasgow, 42 bls. bagging.
Belgam Corp., Kungsholm, Gothenburg, 28 bls. rags.
E. J. Keller Co., Inc., Kungsholm, ———, 37 bls. new cuttings.
E. J. Keller Co., Inc, Innoko, ———, 114 bls. rags.
Van Oppen & Co., Innoko, Rotterdam, 217 bls. rags.
Equitable Trust Co., Bonnie Brook, Novorossisk, 941 bls. rags.
E. J. Keller Co., Inc., Bonnie Brook, ———, 145 bls .rags.
E. J. Keller Co., Inc, Hohenstein, ———, 81 bls rags.
———, Ausonia, London, 60 bls. rags.
J. Cohen Son & Co., Ausonia, London, 26 bls. paper stock.
Amtorg Trading Corp., Edenton, Odessa, 4628 bls. rags.
Irving Trust Co., Pr. Harding, Hamburg, 37 bls. rags.
Darmstadt, Scott & Courtney, Pr. Harding, Hamburg, 64 bls. jute waste.
Darmstadt, Scott & Courtney, Clara Malta, 50 bls. rags.
———, Cabo Espartel, Barcelona, 459 bls. rags.

RAGS, BAGGINGS, ETC.

Fidelity Trust Co., Kepwick Hall, Barcelona, 442 bls. rags.
———, Kepwick Hall, Barcelona, 70 bls. bagging.
E. J. Keller Co., Inc., Kepwick Hall, ———, 39 bls. rags.
H. G. Lichtenstein, Kepwick Hall, Barcelona, 68 bls. jute waste.

(Continued on page 76)

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Boston Birmingham Chicago Pittsburgh Los Angeles Tulsa
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Imports of Paper and Paper Stock

(*Continued from page 74*)

OLD ROPE

Brown Bros. & Co., Hellig, Olav, Copenhagen, 9 coils.
Brown Bros. & Co., N. Y. City, Bristol, 174 coils.
Brown Bros. & Co., St. Louis, Hamburg, 34 bls., 44 coils.
Brown Bros. & Co., Innoko, Rotterdam, 32 coils.
Brown Bros. & Co., Pennland, Antwerpp, 47 coils.
Brown Bros. & Co., Alfonso XIII, Coruna, 27 coils.
International Purchasing Co., Cabo Torres, Cadiz, 210 rolls.
International Purchasing Co., Sud Pacifico, Havana, 39 coils.

CASEIN

Crawford Keen Co., Sud Pacifico, B. Ayres, 1667 bags, 100000 ks.
Kalbfleisch Corp., Pan America, B. Ayres, 417 bags.
Brown Bros. & Co., Pan America, B. Ayres, 750 bags.
Chemical Bank & Trust Co., Pan America, B. Ayres, 417 bags.
Equitable Trust Co., Waukegan, Havre, 334 bags, 25208 ks.

WOOD PULP

Pagel Horton & Co., Inc., Carplaka, Gefle, 500 bls. wood pulp, 50 tons.
Bulkley, Dunton & Co., Carplaka, ———, 2296 bls. wood pulp.
J. Andersen & Co., Brazil, Maru, Hamburg, 300 bls. sulphite, 60 tons.
———, Brazil, Maru, Hamburg, 284 bls. wood pulp, 30 tons.
E. M. Sergeant & Co., Malmen, Gothenburg, 598 bls. dry soda pulp.
Johanson, Wales & Sparre, Inc., Malmen, Gothenburg, 150 bls. dry soda pulp.
Irving Trust Co., Hellig, Olav, Oslo, 125 bls. sulphite, 25 tons.
E. M. Sergeant & Co., Kungsholm, Gothenburg, 200 bls. sulphite; 748 bls. dry soda pulp.
Johanson, Wales & Sparre, Inc., Kungsholm, Gothenburg, 449 bls. dry soda pulp; 160 bls. wood pulp.
Guaranty Trust Co., Kungsholm, Gothenburg, 102 bls. wood pulp.
A. P. W. Paper Co., Evviva, Sheet Harbor, 7491 bls. wood pulp.

WOOD FLOUR

B. L. Soberski, Bergensfjord, Frederickstad, 2250 bags.
The Burnet Co., Kungsholm, Gothenburg, 85 bags.
Equitable Trust Co., Innoko Rotterdam, 566 bags, 33030 ks.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 12, 1930

V. Galaup, Extavia, Palermo, 69 bls. rags.
E. Butterworth & Co., Inc., N. Y. City, Bristol, 351 bls. rags.
Phila. National Bank, Bonnie Brook, Algiers, 43 bls. rags.
Amtorg Trading Corp., Edenton, Odessa, 3121 bls. rags.
E. J. Keller Co., Inc., Cabo Espartel, Barcelona, 78 bls. rags.
City National Bank Trust Co., Cabo Espartel, Barcelona, 69 bls. rags.
Int'l. Germanic Trust Co., Cabo Espartel, Marseilles, 57 rolls old rope.
E. J. Keller Co., Inc., Saco, ———, 25 bls. new cuttings.

PORTLAND IMPORTS

WEEK ENDING APRIL 12, 1930

Lagerloef Trading Co., Carplaka, Helsingfors, 541 bls. sulphite, 81 tons.
Lagerloef Trading Co., Carplaka, Kotka, 640 bls. sulphate, 106 tons.
———, Carplaka, Kotka, 841 bls. sulphite, 140 tons.
Pagel Horton & Co., Inc., Carplaka, Gefle, 2500 bls. wood pulp, 254 tons.
Stora Kopperberg Corp., Carplaka, Gefle, 500 lbs. wood pulp, 101 tons.

BALTIMORE IMPORTS

WEEK ENDING APRIL 12, 1930

Congoleum Nairn Co., Extavia, Genoa, 129 bls. rags.
Congoleum Nairn Co., Extavia, Marseilles, 159 bls. rags.
Congoleum Nairn Co., Extavia, Leghorn, 627 bls. rags.
Congoleum Nairn Co., Extavia, Naples, 567 bls. rags.
Congoleum Nairn Co., Extavia, Catania, 25 bls. rags.
National City Bank, Extavia, Palermo, 297 bls. rags.
National City Bank, Bonnie Brook, Piraeus, 500 bls. rags.
Congoleum Nairn Co., Waukegan, Havre, 49 bls. rags.
Congoleum Nairn Co., Waukegan, Dunkirk, 442 bls. rags.
S. Shapira & Son, Waukegan, Dunkirk, 103 bls. rags.

BOSTON IMPORTS

WEEK ENDING APRIL 12, 1930

Lagerloef Trading Co., Carplaka, Helsingfors, 772 bls. sulphite, 130 tons.
———, Carplaka, Kotka, 2058 bls. sulphite, 345 tons.
———, Carplaka, Kotka, 640 bls. sulphate, 106 tons.
Pagel Horton & Co., Inc., Carplaka, Gefle, 5375 bls. wood pulp, 1042 tons.
Stora Kopperberg Corp., Carplaka, Gefle, 1000 bls. wood pulp, 203 tons.
Bulkley Dunton & Co., Carplaka, ———, 954 bls. wood pulp.
1st National Bank of Boston, Sartartia, B. Ayres, 1501 bags casein, 90060 ks.

Blake, Moffitt & Towne Build

SAN FRANCISCO, Cal., April 4, 1930.—Located in the heart of the wholesale district where they will have facilities for both rail and water shipping the Oakland Division of Blake, Moffitt & Towne have started construction on their new and commodious offices and warehouse at Sixth and Webster streets. It will be a two story structure running along Webster street for 135 feet and along Sixth street for 75 feet.

The building will be of the very latest in construction, built entirely of reinforced concrete with brick for the outside finish. The brick material has been made especially for this new warehouse and will be of a warm tan color. When completed there will be 20,000 square feet of floor space, an increase of 35 per cent over their present warehouse facilities.

With this large amount of space a more complete and varied line of paper, paper products and twine will be carried which heretofore has not been possible due to the increase in volume of business since opening the present warehouse.

Special attention has been given to equipment for the careful and rapid handling of goods such as automatic hoists, freight elevators and delivery chutes. This will enable them to render fast and efficient service.

The executive and sales offices will be on the first floor facing Sixth street allowing an outside exposure. An attractive and spacious lobby, along with a special display room for the showing of fine printed specimens, has been provided for in the plans.

The Oakland Division of Blake, Moffitt & Towne has since its opening several years ago been under the management of F. L. Unthank who has had a long connection with the organization. He was formerly an executive in the Fine Paper Sales Department and later sales manager of the Coarse Paper Department of the San Francisco Division. Mr. Unthank states that they will move in their new location soon after May 10 and that the official opening will follow shortly after. In his statement he declared that there would be no interruption in service while the moving takes place.

It is understood that this plant when completed will cost in the neighborhood of $75,000 and will be one of the finest and up to date paper houses on the Coast.

In addition to Oakland and San Francisco, Blake, Moffitt & Towne have divisions located at Los Angeles, Seattle, Portland, Fresno, Sacramento, San Jose, San Diego, Long Beach, Santa Rosa, Boise, Salem, Medford, Tucson and Phoenix. The Tacoma Paper and Stationery Company of Tacoma, Washington, is also affiliated with this chain making a total of 17 divisions covering five Western States along the entire Pacific Coast.

Blake, Moffitt & Towne is not only one of the largest wholesale concerns on the Pacific Coast but is one of the oldest having been established in San Francisco in 1855. The organization is now celebrating its 75th anniversary.

Paper Imports Into Japan Increase

Imports of paper and paper products into Japan, according to figures published by the Tariff Division of the Department of Finance, Tokyo, dropped from 50,314 short tons valued at approximately $7,002,319 in 1928 to 39,692 tons valued at $5,774,205 last year while at the same time there was an increase in exports from 89,050 tons to 93,754 tons in volume and from $11,911,900 to $12,110,002 in value. Nearly all classes of paper imports suffered in the general decline, notable exceptions being match papers, which increased from 221 tons to 867 tons and vegetable parchment papers, which increased from 3,614 tons to 4,621 tons.

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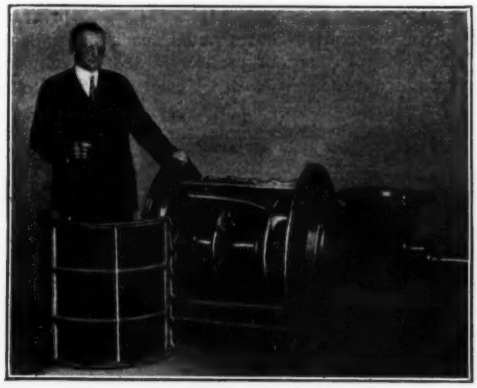

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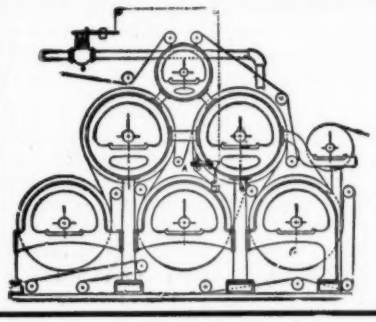

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W. F. PICKLES **Buckland, Conn.**

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, April 16, 1930.

Business in the local paper market was rather quiet during the past week. Irregular conditions in several branches of the industry are believed to be responsible for the lack of large sized orders around at present. Most of the transactions recorded of late have been for immediate requirements. Prices are unsettled and keen competition is leading to shading on extra desirable orders, in some instances.

Little improvement was noticed in the news print market. Production in the United States and Canada has fallen off to approximately 68 per cent of total weighted capacity, according to returns from the mills to the News Print Service Bureau. Offerings are being absorbed in satisfactory volume by the publishers, however, and accumulations are not unduly excessive.

While the paper board price situation continues involved, demand for the various grades is well up to average for the time of year and the outlook is more promising than for some time past. The fine paper market continues to exhibit a strong undertone, and tissues are moving more freely. Uncertainty rules the coarse paper market. Southern kraft prices remain weak.

Mechanical Pulp

Although demand for both domestic and imported ground wood was light during the past week, the mechanical pulp market is in a sound position. With production curtailed during the winter, both at home and abroad, offerings are limited and are just about sufficient to take care of current requirements. Prices are generally holding to schedule and there is little talk of concessions around.

Chemical Pulp

Trading in the chemical pulp market was quiet. Demand for the various grades was mostly along routine lines. Contract shipments are moving to the paper mills in seasonal volume. Inquiries for future needs are fairly numerous. With the exception of kraft pulp, which continues to exhibit weakness, practically no price changes have been recorded.

Old Rope and Bagging

The old rope market was only moderately active. Little interest is being shown by the mills in old manila rope. Imported old manila rope is weaker and is now being offered at from $4.00 to $4.25. Domestic old manila rope is steady and unchanged. Mixed rope is fairly steady. The bagging market is fairly active. Scrap bagging and gunny are in seasonal request. Roofing bagging is quiet.

Rags

Demand for domestic rags is fairly persistent. Most grades of cotton cuttings are moving into consumption at a normal pace for the season. Little interest is being shown in roofing rags at present. Mixed rags are going forward in satisfactory volume. The imported rag situation is little changed. Offerings are ample for current needs. Prices are generally holding to former quoted levels.

Waste Paper

The better grades of paper stock are displaying a firmer trend than for some time. Soft and hard white shavings are in persistent request and with offerings scarce, prices are decidedly firmer. Dealers are now asking from $2.65 to $2.75 for soft white No. 1 shavings. Collections of the lower grades have fallen off, due to unattractive prices, and the outlook for this branch of the industry is not encouraging.

Twine

Conditions in the local twine market are fairly satisfactory. Although the bulk of the orders for Easter requirements has already been booked, late rush orders are still being received for immediate needs. Despite keen competition for desirable business, prices are generally holding to schedule.

Wrappings in Bad Condition

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., April 14, 1930.—The entire wrapping paper market here seems to be in the worst condition it has been for months. Concessions in prices have served to slow down buying, for the consumers believe further concessions can be forced. No mention has been made as yet, but the members of the Indianapolis Merchants Association which comprises the largest stores in the downtown district, is issuing a ukase May 1 concerning special wrappings for patrons. The stores will wrap any package in a neat manner, but will not provide the extra "gift" trimmings, such as fancy paper, ribbons, etc., that have been the custom for years. It was brought out at a recent meeting of the board of directors of the association that this special wrapping for customers is costing only seven stores in the city where surveys were made nearly $100,000 extra annually. And it's going to stop or the customer is going to pay the full cost for wrapping, which likely will mean a sharp decline in the practice.

The jobbers say a little more demand is seen for fine papers. Most of it is coming from the printers and specialty manufacturers who are finishing up their late Easter business. Cellophane papers continue to have a steady demand and more and more uses are being found for these grades. It is pointed out that virtually every cigar manufacturer in Indiana now is using cellophane for wrapping. Demand for news print is none too lively. Papers are not carrying the lineage they should before Easter, particularly the papers in the industrial centers.

Demand for building papers is picking up a little, now that warm weather has arrived, at least for the time being. Dealers are buying for fill-in purposes, and stocks in retail hands will be kept to a low point during the season, it is said.

John Hurley Commits Suicide

HUDSON FALLS, N. Y., April 14, 1930.—John Hurley, a former superintendent of the Union Bag and Paper Company, committed suicide during the past week by hanging himself from a beam in the attic of his home. He was 57 years of age. It is believed that he was despondent from ill health as he had been suffering from rheumatic paralysis for many years. Following his recent retirement from active mill work he took a position as caretaker at the home of George F. Witham, Sr., which he held at the time of his death. He is survived by two daughters and a son.

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, April 16, 1930.

BLANC FIXE.—Conditions in the blanc fixe market are fairly satisfactory. Demand for both the pulp and the powder is moderately active. The pulp is still quoted at from $42.50 to $45,00 per ton, in bulk, while the powder is selling at from $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Paper mill demand for bleaching powder was rather quiet although the market is in a sound position. Prices are generally holding to formerly quoted levels and shading is infrequent. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN—Further weakness developed in the Argentine casein market. Argentine standard ground is now offered at 13 cents and finely ground at 14½ cents per pound. Domestic casein remains unchanged and is quoted at from 13½ cents to 15¼ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. The contract movement is seasonal. Prices are generally holding to schedule. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—The position of the china clay market is practically unchanged. Contract shipments are moving at a steady pace. Prices are unchanged. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Demand for chlorine was rather light during the past week. The contract movement is about normal for the time of year. Prices are holding to previously, quoted levels. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market continues to fluctuate. Prices again declined. The grades of gum rosin used in the paper mills are quoted from $7.70 to $8.30 per 280 pounds, in barrels, on dock. Wood rosin is selling at from $6.40 to $6.75 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Trading in the salt cake market continues active. Offerings are still decidedly limited. Prices are holding to schedule, without difficulty. Salt cake is quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Some improvement was noticed in the soda ash market. Shipments against contract are going forward at a better pace. Prices are steady and unchanged and shading is infrequent. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—The starch market is exhibiting a fairly strong undertone. Contract shipments are moving to the mills in good volume. Prices are holding to previously recorded levels. Special paper making starch is still quoted at $3.72 per 100 pounds, in bags, and at $3.99 in barrels.

SULPHATE OF ALUMINA.—Transactions in the sulphate of alumina market were fairly heavy. Supplies are moving into consumption in good volume. Prices remain unaltered. Commercial grades are quoted at from $1.40 to $1.55 and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Production of sulphur is being maintained in good volume. Sulphur is quoted at $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Normal conditions prevail in the talc market. Demand is seasonal and contract shipments are proceeding with regularity. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	6.00	@ 6.50
No. 2 Domestic	3.50	@ 5.00
Southern	3.00	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@ —
Straw	52.50	@ —
Chip	35.00	@ —
Binders' Boards	65.00	@70.00
Wood Pulp	90.00	@95.00
65 Test Jute Liner	45.00	@47.50
85 Test Jute Liner	50.00	@55.00
Sgl. Mla. Ll. Chip	47.50	@50.00

Mechanical Pulp
(On Dock)

No. 1 Imported—		
Moist	30.00	@32.00
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@32.00
Screenings	15.00	@20.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.25	@ 4.25
Easy Bleaching	2.80	@ 3.05
No. 1 strong unbleached	2.65	@ 2.75
Mitscherlich unbleached	2.70	@ 3.00
No. 2 strong unbleached	2.40	@ 2.60
No. 1 Kraft	2.15	@ 2.30
No. 2 Kraft	2.00	@ 2.15
Sulphate—		
Bleached	3.40	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.20	@ 4.75
Easy Bleaching Sulphite	2.65	@ 3.00
News Sulphite	2.50	@ 2.70
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.10	@ 3.30
Soda Bleached	3.10	@ 3.25
Sulphate Screenings—		
Coarse	.75	@ .95
Refined	1.65	@ 1.85

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	9.25	@ 9.75
New White, No. 2	7.00	@ 7.50
Silesias No. 1	7.50	@ 8.00
New Unbleached	10.50	@11.00
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Blue Overall	7.25	@ 7.75
Washables	4.75	@ 5.25
Fancy	5.50	@ 6.00
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.25
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.50	@ 1.60
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.05

Foreign Rags
New Rags

New Dark Cuttings	2.25	@ 2.75
New Mixed Cuttings	2.50	@ 3.00
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.25	@ 7.75
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.00	@10.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	2.75	@ 3.75
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.95	@ 2.15
Extra Light Prints	1.95	@ 2.15
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.95	@ 2.10
Dutch Blue Cottons	2.15	@ 2.30
French Blue Linens	2.65	@ 2.75
German Blue Linens	2.30	@ 2.50
German Blue Cottons	2.00	@ 2.10
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.45	@ 1.50
Old Shopperies	1.40	@ 1.45
New Shopperies	1.35	@ 1.40
French Blues	2.00	@ 2.10

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.50	@ 1.60
Domestic	1.60	@ 1.70
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	4.00	@ 4.25
Domestic	4.25	@ 4.50
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers
(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.00	@ 3.25
Hard, white, No. 2	2.40	@ 2.55
Soft, white, No. 1	2.65	@ 2.75
White envelope cuttings	2.90	@ 3.10
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag.	1.45	@ 1.55
Solid Flat Book	1.40	@ 1.50
Crumpled No. 1	1.00	@ 1.10
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.45	@ .55
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.50	@ 1.75
Extra No. 1 old	1.25	@ 1.35
Print	.60	@ .65
Container	.40	@ .50
Bogus Wrapper	.60	@ .65
Old Kraft Machine Compressed bales	1.65	@ 1.75
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.55	@ .65
Strictly Folded	.45	@ .55
No. 1 Mixed Paper	.25	@ .30
Common Paper	.15	@ .20

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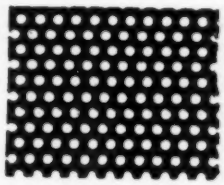

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RAGS—BURLAP—BAGGING—ROPE
JUTE BUTTS, MAGAZINES, CATALOGS, OLD PAPERS, THREAD WASTE AND ALL GRADE OF RAGS CUT QUICKLY AND EFFICIENTLY WITH THE
GIANT The Standard of the World for 59 Years

Giant Rag Cutters have capacities of from 1 to 5 tons per hour

This is the GIANT 3-B CUTTER WITH A CAPACITY OF 3000 lbs. PER HOUR

TAYLOR, STILES & COMPANY, Riegelsville, N. J., U. S. A.

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Waterous, Limited
Brantford, Ont., Canada

R. J. MARX
SOLE AGENTS FOR EUROPE
132-39 Finsbury Pavement, London, E. C.

EDGAR CLAYS

AMERICAN MADE FOR THE AMERICAN TRADE

H. T. BRAND COATING CLAY
and
High Grade Filler Clay

Edgar Clays are the result of almost half a century of experience in Washing Clay. Technical Service available for both coating and loading without charge.

EDGAR BROS. CO.
50 Church St. New York

500 Tons Daily

We will be glad to send you samples—

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¾
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	2.60	@	2.65
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Kraffs	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (overissue)	.50	@	.60
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.45	@	.50
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.03¾	@	.05¼
No. 1 Kraft	.05½	@	.06½
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¼
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	1.40	@	1.50
No. 2 Mixed	.80	@	.90
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.00	@	1.15
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.90	@	.100
No. 1 New Manila	2.30	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.40	@	.50
Container Manila	.30	@	.35
Old Kraft	1.40	@	1.50
Common Paper	.15	@	.20
No. 1 Mixed Paper	.15	@	.20
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.40	@	.45
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	7.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.01½	@	.01⅞
No. 2	1.20	@	1.25
No. 3 (Roofing)	1.10	@	1.20
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.70

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.03½	@	.04½
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009			52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	—	@	1.50
Print Manila	.80	@	.90
No. 1 Mixed Paper	.20	@	.25
Overissue News	.45	@	.55
Old Newspapers	.35	@	.40
Box Board, Chip	.45	@	.50
Corrugated Papers	.45	@	—

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.40	@	1.55
Manila Rope—			
Foreign	—	@	4.00
Domestic	—	@	4.50
Transmission Rope	2.25	@	2.50
Mixed Strings	.85	@	.95
Jute Wool Strings	.90	@	1.00
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.25	@	1.40
Scrap Sisal	1.55	@	1.65
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.50	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08½	@	—
Silesias, No. 1	.06	@	.06¼
New Unbleached	.09¾	@	—
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.25	@	1.35
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.35	@	1.40
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.80	@	1.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	31.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	77.00	@	78.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

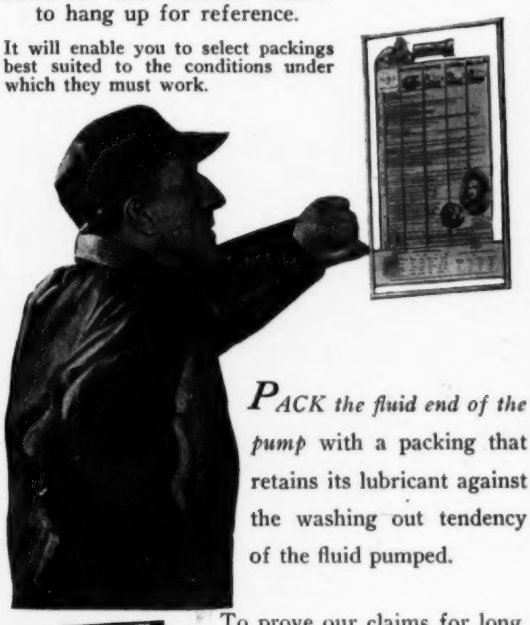
Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¾	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

Select Packings Intelligently

Send for this "A.B.C." Chart
to hang up for reference.

It will enable you to select packings best suited to the conditions under which they must work.



PACK the fluid end of the pump with a packing that retains its lubricant against the washing out tendency of the fluid pumped.

For Steam (Superheat and Compressed Air

For Water (Hot and Cold) Calcium Brine, Centrifugal and Reciprocating Pumps.

For Caustic Soda, Acids, Alkalis.

For Gasoline, Naphtha and all Distillates of Petroleum.

To prove our claims for long satisfactory service, let us send you without charge or obligation working samples of these packings to test under your own conditions. State condition of service and size packing desired.

To avoid shaft friction, a packing must have sufficient lubricant, and the lubricant must be such as will resist the washing out tendency of the fluid it comes in contact with.

The packings listed on this chart are designed to give long, satisfactory service under indicated conditions.

GREENE, TWEED & CO.

Sole Manufacturers

109 Duane St., New York, N. Y.

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Please mail me a copy of your "A.B.C." Chart.

Name .....
Position .....
Firm .....
Address 12

PAPER TRADE JOURNAL

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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-EIGHTH YEAR

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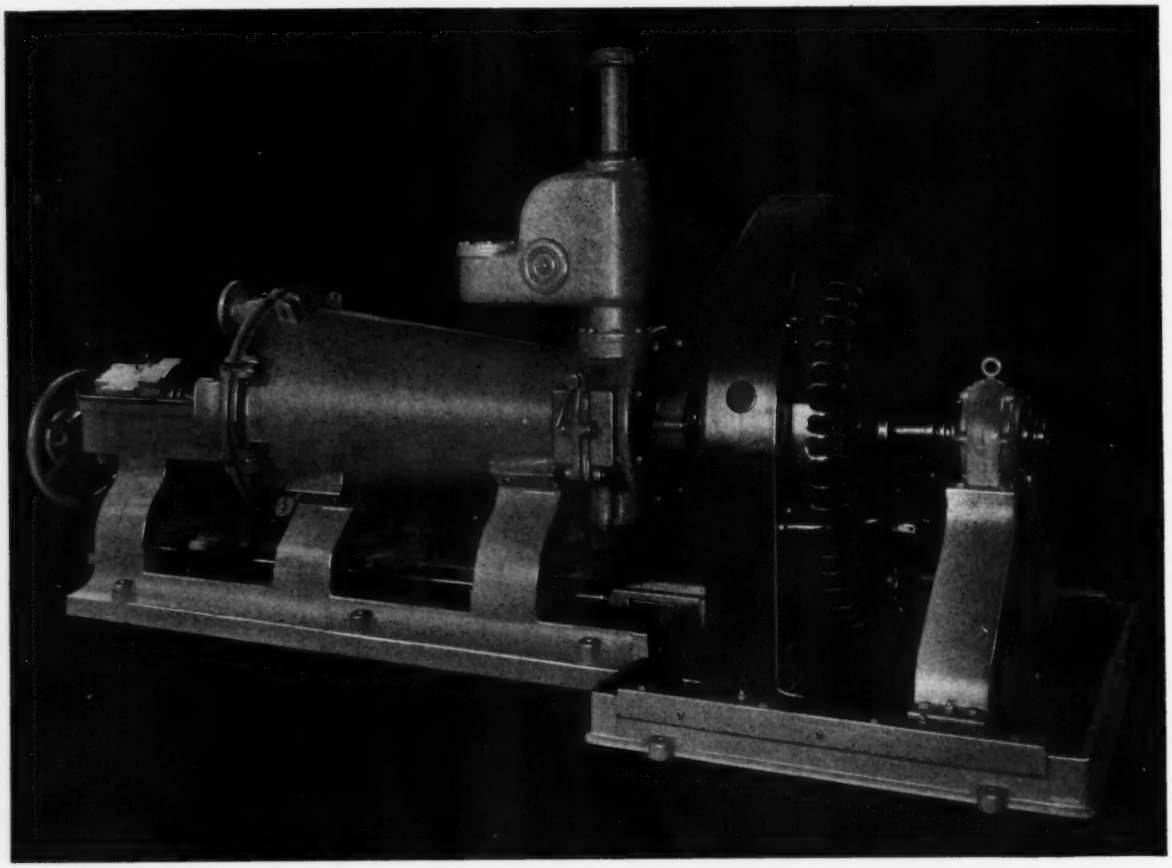
The Appleton Open-Throat Jordan Plug is standard equipment with the Appleton Close-Coupled Jordan.



Patent Applied For

A More Profitable Power Application —

The most modern drive for Jordans is a more profitable power application. The Appleton Close-Coupled Jordan puts the driving motor where it is more effective. The motor is an integral part of the Jordan, the rotor being mounted directly on the plug-shaft. Being close to the work (Jordan knives) the effectiveness of the power input is materially increased. The close-coupled drive is more efficient. The elimination of the flexible coupling and the motor bearings removes those causes of power loss and reduced efficiency.

The close-coupled drive is more economical. The aggregate of the many efficiencies of this new development in Jordan construction is an appreciable power item, a more profitable power application. It is but one of the reasons why the Appleton Close-Coupled Jordan gives superior performance.

THE APPLETON MACHINE COMPANY
Appleton, Wisconsin

- *with the* APPLETON CLOSE COUPLED JORDAN ENGINE